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ABSTRACT

Along with 23 other units in various states, the Illinois Research Coordinating Unit (IRCU) has, since its inception, been committed to bringing about innovations in education. This document presents a summarization of the activities and progress of the unit during the 1972 fiscal year as well as the planned research endeavors for 1973. The unit has as its goal, the accomplishment of these four objectives, to: (1) identify and support research and developmental programs which emphasize an articulated and coordinated K-14 system, (2) initiate research activities designed to expedite total planning and decision-making at the state and local level, (3) support research and exemplary activities which formulate models of instruction utilizing contemporary methods of technology, and (4) plan and initiate a system which insures the implementation of significant research and developmental results. The IRCU seeks to expand its efforts in 1973 so as to include more comprehensive research of a significant nature. Recommended priorities for the 1973 year are included. (SN)

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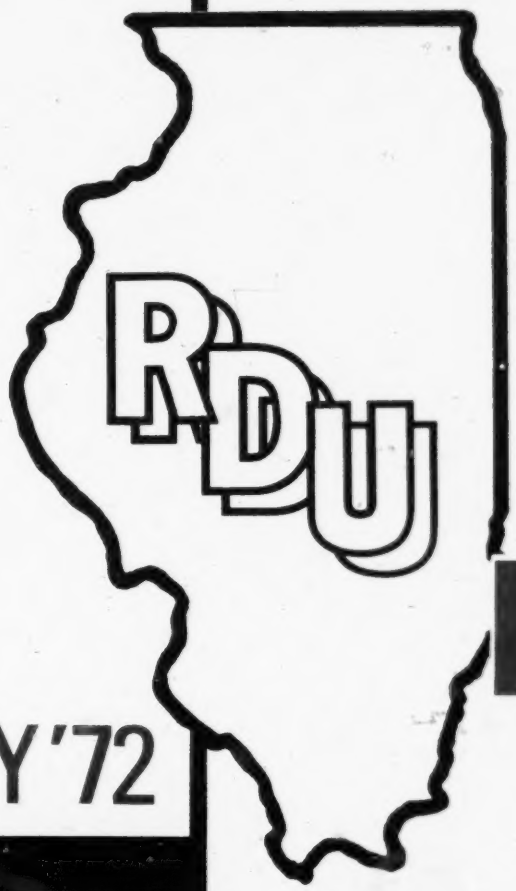

FY '72

Research and Development Unit

State of Illinois
BOARD OF VOCATIONAL EDUCATION AND REHABILITATION
DIVISION OF VOCATIONAL AND TECHNICAL EDUCATION
1035 Outer Park Drive
Springfield, Illinois 62706

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FINAL REPORT

July 1, 1971 - June 30, 1972

In Compliance With The
Amendments to the Vocational Education Act of 1963
Public Law 90-576 (Sec. 131-b)

Research and Development Unit
(Illinois RCU)

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October, 1972

State of Illinois
Board of Vocational Education & Rehabilitation
James W. Cook, Chairman
Division of Vocational and Technical Education
Michael J. Bakalis, Executive Officer
Sherwood Dees, Director

....."I have long believed that an RCU-type organization could play a vital role in providing continuous research and development which would lead to improving and expanding State Vocational programs, and providing new directions for these programs to keep them in tune with the diverse and changing needs in each of the states....."

....."Since their founding in 1965, the State RCU's have made some very significant contributions to the research literature on vocational education. In addition to their contributions to the research literature, the RCU's have engaged in a considerable amount of developmental work, directed to the construction and validation of more effective instructional programs and better management systems for vocational education....."

Dr. Robert M. Worthington
Associate Commissioner for Adult,
Vocational, and Technical Education
U. S. Office of Education

PREFACE

The Vocational Education Act of 1963, Public Law 88-210, Section 4(c) indicated the importance of and the need for research in vocational education by making provisions for the establishment of Research Coordinating Units at the state level. The Illinois Research Coordinating Unit (RCU) was one of the original twenty-four units established prior to July 1, 1965, pursuant to the invitation of the U.S.Commissioner of Education to establish and operate Research Coordinating Units. Since its conception, the Illinois RCU has been totally committed to innovations in education. The realization that federal and state support of projects and programs initiated by local schools forms a solid base for an exciting, relevant, and accountable vocational education program has been influential in the added emphasis placed upon the responsibilities of the Unit by the Illinois Division of Vocational and Technical Education. Providing visibility for exemplary and innovative programs has received priority emphasis and been a driving thrust to make vocational education a major element of the total educational system.

In August of 1969 when the various state RCU's became permanently established under provisions of Part C of the 1968 Amendments to the Vocational Education Act of 1963, Public Law 90-576, the unit was included in the State Plan for the Administration of Vocational and Technical Education in Illinois. As an integral part of the Division of Vocational and Technical Education, Board of Vocational Education

and Rehabilitation, it was decided to change the name of the Unit from the Illinois Research Coordinating Unit to the Illinois Research and Development Unit. Due to the broad nature of the projects being funded and the strong emphasis being placed on implementation of innovative research ideas, this new title better described the overall function of the Unit as conceived and operated in Illinois. The Unit has become deeply involved in research with special consideration being given to developmental activities and total implementation of these ideas. The State of Illinois has fully accepted the challenges set forth by the provisions of the 1968 Amendments to the Vocational Education Act of 1963. The Research and Developmental Unit will truly play an integral and vital part in reaching the goals set forth by this Act in its effort to become established as a leader in research throughout the Nation, as well as, within the State of Illinois.

In Fiscal Year 1971 the Research and Development Unit in cooperation with other Units of the Division of Vocational and Technical Education developed a total internal management system for vocational education in Illinois. The development of the system involved the identification of goals to support each purpose, the establishment of specific objectives for the accomplishment of each goal, and the implementation of activities to support each objective. The development of this system had an effect on Research and Development activities during late Fiscal Year 1971, but its full impact became very evident during Fiscal Year 1972.

The Illinois Research and Development Unit has an increasing role in the development of vocational education for all people in the State of Illinois. Its present role and function is to serve as one of the eight units organized to promote and establish educationally meaningful occupational programs for today's youth and adults. The changes which occurred in Fiscal Year 1972 were designed to improve research, developmental and exemplary programs funded with the Research and Development Unit. As a member of the Research community, the Illinois Research and Development Unit has initiated a series of innovative activities designed to stimulate, encourage, and assist federal, state, and local educational programs. An effort has been made to plan for "measured" change by following planned priorities.

This report is devoted to the summarization of the major accomplishments of the Research and Development Unit during Fiscal Year 1972 (July 1, 1971-June 30, 1972). Some discussion is given to the future plans of the Unit for Fiscal Year 1973 since this represents a vital part of the activities that must be accomplished during any Fiscal Year to insure relevance and continuity to research and developmental activities for the future.

Ronald D. McCage
Coordinator
Research and Development Unit

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INTRODUCTION

For what almost seems to be an eternity National criticism has centered around and focused on the structure of the American Educational System. It has long been apparent that young men and women leave our educational system without the sufficient skills required to survive in the world of work. The frequently quoted cliche' that the major emphasis in education is centered around preparing only that 20% of the students who will someday complete college has caused a major restructing of thought within the educational community. Considerable emphasis has been placed on identifying the ills of the system, finding solutions to these ills, and implementing the needed methodology to make education more relevant to the needs of its consumers. This in turn has given rise to a new vocabulary for education including terms such as "Revelancy", "Accountability" and "Career Education".

The Nation is now looking toward vocational education for solutions to many of its educational problems. The attitude that vocational education is for someone elses child or is a dumping ground for unwanted students must and is changing. The next five years will probably prove to be extremely crucial in defining the role of vocational education and how it relates to and dovetails with the total educational system. The research necessary for productive growth rests upon the shoulders of individuals who sincerely desire to improve the system. New and innovative processes must be clearly formulated and made operational to insure an educational system designed to retain the potential drop-out, provide for the handicapped and disadvantaged, stimulate the

college bound, and prepare those desiring to enter the labor market for their rightful place in the world of work.

New approaches to teaching, as well as curricula, must be developed and tested. Evaluative techniques must be formulated and employed to determine the effectiveness of new and on-going programs. It is only when these tasks have been accomplished and others informed so that all may benefit that education will become relevant ahd yield an educational structure that produces successes and not failures. The system must have as its ultimate goal the career development of the individual.

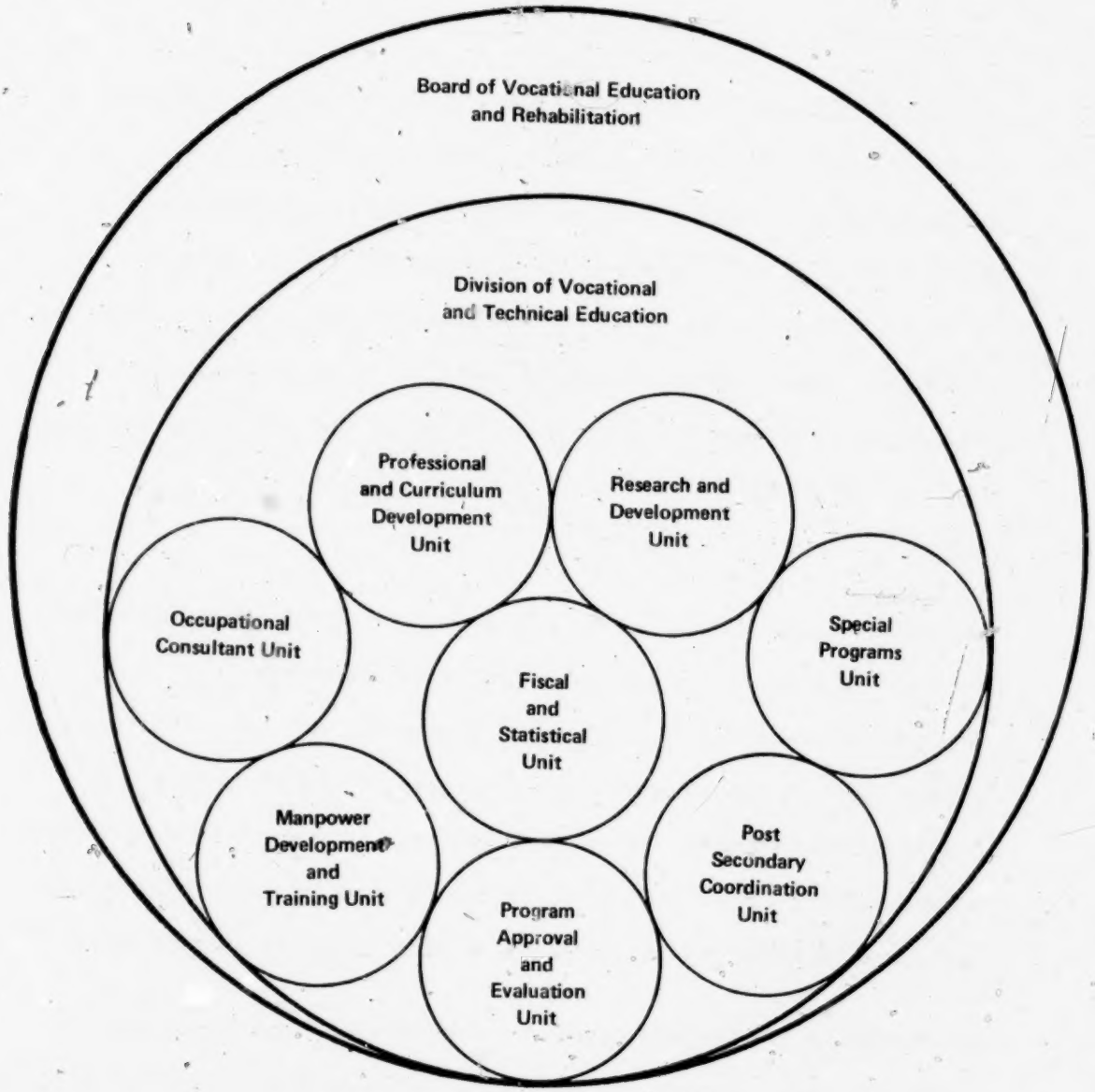
To embark upon an educational venture of such immense importance requires individuals capable of providing the experiences necessary to develop a mature, relevant, and accountable educational system. What experiences are necessary to guide vocational education through such formative phases are unknown or at best vague to most people. Identifying and organizing these experiences into a vehicle for moving vocational education to address itself to the needs of the young men and women in our educational system provides a challenge to the best of researchers.

The staff of the Research and Development Unit of the Illinois Division of Vocational and Technical Education has accepted such a challenge. The realization that planned change, strongly based on research and development activities, is far superior to any haphazard action aimed at change for change sake alone has evolved a workable model for research, development and exemplary activities. Such a model is

necessary in order to achieve maximum results in meeting individual and manpower needs. To encourage and accomplish endeavors in the directions desired, the staff members of the Research and Development Unit in cooperation with other staff members of the Division, developed a system known as "A Systems Approach For Management of Vocational Education in Illinois". The activities encompassing this internal management system were selected to assist the Division of Vocational and Technical Education in implementing effective programs throughout the State of Illinois.

Management is the key to success in any organization where resources are allocated to attain desired goals and where uncertainity and scarcity of resources is a reality. Purposeful and systematic decision making involves the allocation of resources to specific means for achieving desired ends. Thus the foundation of management activity is planning which can be defined as the development of an initial set of decisions directed toward attaining specific goals by optimal means.

In developing the systems approach, the Division began by assessing needs, stating a purpose for each unit, establishing generalized goals to support each purpose, defining specific objectives to accomplish each goal and identifying the various activities needed to accomplish each objective. Each of the eight units of the Division was defined as an individual system designed to carry out a unit purpose, the attainment of which supported the accomplishment of an overall purpose of the Division of Vocational and Technical Education. The Division

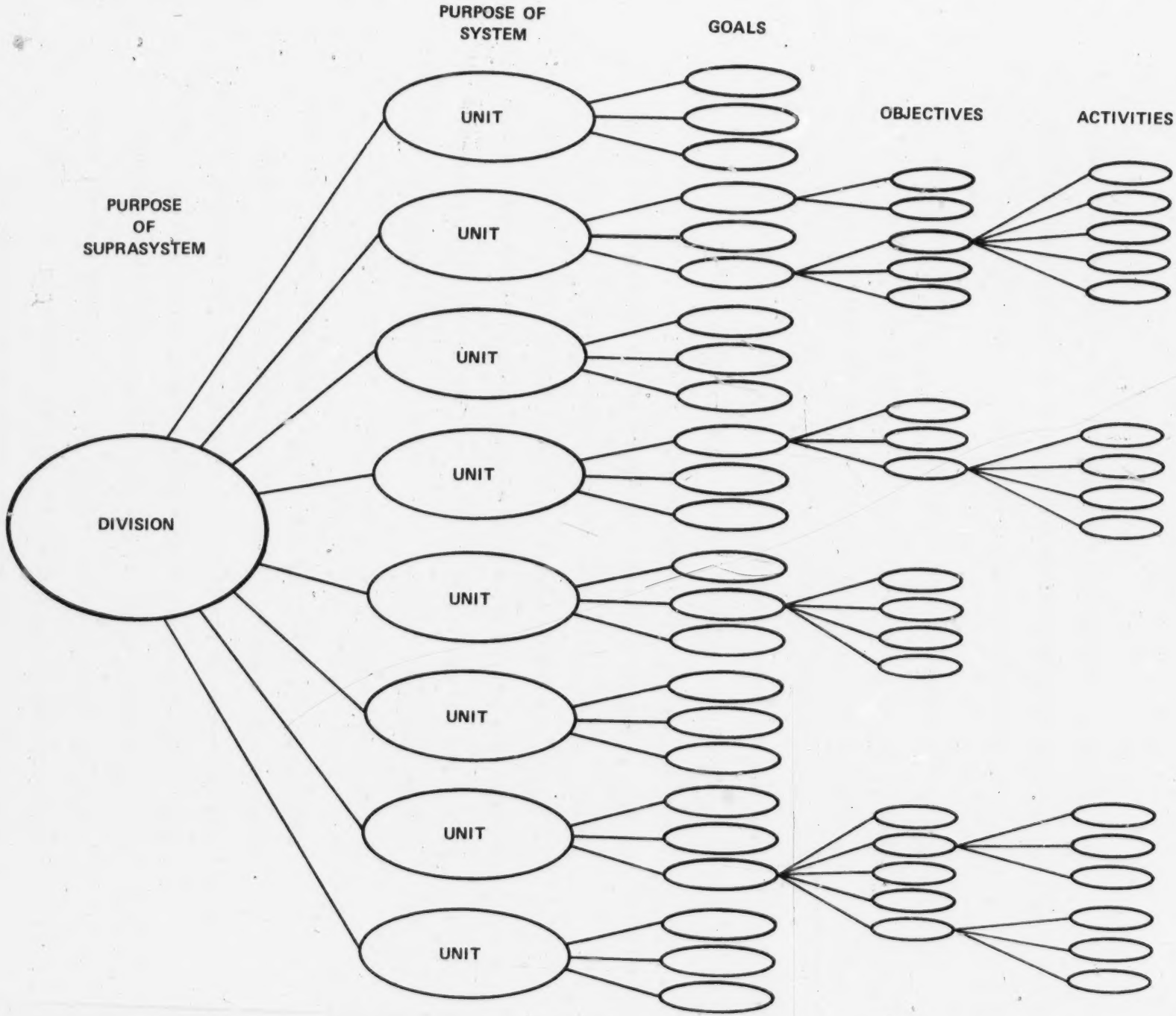

Board of Vocational Education and Rehabilitation
Division of Vocational and Technical Education
Professional and Curriculum Development Unit
Research and Development Unit
Occupational Consultant Unit
Special Programs Unit
Fiscal and Statistical Unit
Manpower Development and Training Unit
Post Secondary Coordination Unit
Program Approval and Evaluation Unit

A SYSTEMS APPROACH FOR MANAGEMENT OF
VOCATIONAL EDUCATION IN ILLINOIS

was defined as a Suprasystem in which the units operated. The Board was a Suprasystem of a higher context in which the Division operated, the State of Illinois another Suprasystem of a still higher context, etc.

Each of the systems (units) was broken into subsystems which were designed to carry out a purpose, the attainment of which was necessary in order to achieve the over-all purpose of the system. The "Purposes" represented a broad subjective review which was in turn utilized as a base upon which the total system was built. Each system (unit) had to forecast areas of endeavor within a specific time frame. The term "Goal" was used to define these areas of activity. It served as a general statement to identify the nature of the activities to be performed. In contrast to the goal an "Objective" was defined as a statement of specific behavior. It described how the goals would be accomplished and specific priority areas achieved within the specific time frame. Objectives were utilized to define the behavior necessary to accomplish specific goals. The "Activities" were defined to achieve the desired terminal behavior as stated in the objective.

Meeting manpower needs is a complex and difficult problem. Vocational Education, as a part of the overall manpower program, faces many critical issues in the 70's, i.e., the effective and efficient disbursement of funds; parameterizing the educational, social and legal role of Area Vocational Centers; determining new and projected occupational needs; developing flexible curricula to meet changing manpower needs; improving instruction methods and delivery techniques; providing adequate facilities and equipment; promoting partnerships with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community and industry as well as secondary and post-secondary cooperation; supplying quality teachers; conducting product follow-up, program and product evaluation; initiating cost analysis and benefit studies; and serving specific target population groups. Research and development activities can provide the methodology for overcoming many of these problems. However, the activities must be based on sound goals and objectives in order to produce information in a form that can be used in the decision-making process. Each goal must have a specific direction and each objective must be designed to support the goal to which it is assigned.

The Research and Development System for Management illustrates this type of a systematic approach to planning. It is designed and written to support the purpose of the unit, namely "To provide for the development of research, developmental, and exemplary activities for all levels of occupational education." This in turn enables the Illinois Division of Vocational and Technical Education to:

1. Make available to the State Board, Director, and Advisory Council more concrete and specific data relevant for their broad decisions.
2. Spell out more concretely the objectives of the various programs.
3. Analyze systematically and present to the State Board and Directors for their review and decision, possible alternative objectives and alternate educational programs.
4. Evaluate thoroughly the benefits and costs of programs.
5. Present on a multi-year basis the prospective costs and

anticipated accomplishments of various programs.

6. Review objectives and conduct educational program analyses on a continuing basis.

7. Assist the State Board and Director in the development of the annual budget.

Four major goals with supporting objectives were identified by the Research and Development Unit for Fiscal Year 1972.

Goal #1 To identify and support research, developmental, and exemplary career development programs which emphasize an articulated and coordinated K-14 system.

In a recent address entitled Career Education Now, Dr. Sidney P. Marland, Jr., Assistant Secretary of Health, Education and Welfare, made the following statement, "I propose that a universal goal of American education, starting now, be this: that every young person completing our school program at grade 12 be ready to enter higher education or to enter useful and rewarding employment." The State of Illinois' Advisory Council on Vocational Education has recommended that "we expand efforts to support programs in occupational orientation beginning in the elementary school."

The Research and Development Unit defined as a major goal the task of identifying and supporting pertinent research, developmental and exemplary career development programs which emphasized an articulated and coordinated K-14 system. This program was to be designed to take the young child as he entered school and provide him with the educational opportunities necessary to make wise decisions in terms of his future in the World of Work.

RESEARCH AND DEVELOPMENT UNIT

PURPOSE

The purpose of the Research and Development Unit is to provide for the development of research, developmental, and exemplary activities for all levels of occupational education.

GOALS

To identify and support research, developmental, and exemplary career development programs which emphasize an articulated and coordinated K-14 system.

To initiate research activities designed to expedite total planning and decision-making at the state and local level.

To support research, developmental, and exemplary activities which formulate models of instruction utilizing contemporary methods of/and technology.

To plan and initiate a system which insures the implementation of significant research and developmental results.

OBJECTIVES

- To continue support of significant projects with emphasis on occupational information and occupational orientation.
- To support the development and implementation of articulated and coordinated methods of career development.
- To initiate and support manpower needs studies in conjunction with other appropriate agencies.
- To support research activities for determining the feasibility of joint agreements in providing comprehensive vocational education programs.
- To initiate the development of a Management Information System at the state level.
- To support studies concerning cost differential and cost benefit at all levels of occupational education.
- To support the development of evaluation techniques for vocational education programs in conjunction with the Program Approval and Evaluation Unit.
- To encourage and support activities designed to improve program planning and curriculum decisions at the local level.
- To support the development and implementation of pilot centers to determine the feasibility of a state-wide system of computerized vocational information.
- To promote the development of methods of instruction with emphasis on individualized instructional techniques.
- To promote and support the development of new and innovative instructional techniques emphasizing technological progress.
- To support the establishment of a model placement and follow-up system at the high school level.
- To provide a system for the dissemination of research and developmental materials and findings.
- To support exemplary projects which implement and provide visibility for outstanding R&D projects.
- To support demonstration centers spotlighting viable programs in vocational and technical education.
- To assist in developing workshops and conferences for the purpose of dissemination of research and development projects.

To facilitate the development of an articulated and coordinated K-14 system, the Research and Development Unit assigned two objectives to this goal.

1. Continued support was to be provided for significant projects with emphasis on occupational information and occupational orientation. Two career development projects, one at Southern Illinois University and one at Northern Illinois University, have made great strides toward providing comprehensive occupational education programs. New activities to strengthen the dissemination and implementation phases of these projects were to be initiated in order to emphasize career orientation and information.

2. Federal directives stress the development and implementation of articulated and coordinated methods of career development. In order to insure a smooth transition between structures and programs, innovative and experimental projects were to be initiated to determine the services necessary for making the difficult transition into our educational system. Already active articulation areas were to be consolidated and provided with additional funds for further expansion and revision.

Goal #2 To initiate research activities designed to expedite total planning and decision-making at the state and local level.

The second major goal of the Unit specified the initiation of research

activities designed to expedite total planning and decision making at the state and local level. Total planning was to be centered around monitoring manpower needs, management information, cost differential, and evaluation of programs with the major emphasis placed on designing a strategic, well-informed approach to decision-making.

1. For the state to assist local agencies in planning future vocational education programs, studies were to be initiated to assess and analyze vocational education demand needs. To insure the success of such studies, they were to be conducted in conjunction with other state and local agencies. This would accelerate the flow of critical manpower data into a manageable form.
2. Research activities for determining the feasibility of joint agreements in providing comprehensive vocational educational programs, especially the psychological and environmental factors arising from such joint agreements between two or more school districts, were to be investigated. The accountability factor was to also be included in this investigation since it definitely encircles the joint agreement areas.
3. An automated manpower data system, such as the Management Information System desired at the state level, requires a clearinghouse for manpower supply data. The State Advisory Council has already suggested

that an "electronic system of data collection and retrieval for program planning" be emphasized. Developmental studies for gathering data were to be undertaken in order to provide at finger-tip accessibility information needed for program planning and budgeting.

4. Cost differential and cost benefit at all levels of occupational education are viable areas for continued research. A model for the efficient collection, processing, summarization, and comparison of course costs, enrollment and reimbursement data at the community college level has been developed. Increased resources in this area were to be provided to develop a practical approach to program planning.
5. Studies similar to the Assessment of Vocational Education in Chicago were projected for possibly Rockford, Peoria, E. St. Louis and Rock Island-Moline during Fiscal 1972 in order to assess the manpower and vocational programs in public and private sectors.
6. Studies such as the one at Joliet Junior College, directed toward making the curriculum decision-making process more readily definable, were to be initiated for validation of existing and innovative curriculum planning models.

Additional emphasis was to be placed on modernization of curriculum planning techniques and standards so as to improve program planning and curriculum decisions at the local level.

Goal #3 To support research, developmental, and exemplary activities which formulate models of instruction utilizing contemporary methods of/and technology.

The third major goal of the Unit was for continued support of research, developmental, and exemplary activities which formulated models of instruction utilizing contemporary methods of/and technology. Emphasis must be continued on improving the learning environment of our educational system if new and more effective techniques are to be identified to teach the ever increasing number of students. Emphasis was to be on projects which had broad applicability.

1. The development and implementation of pilot centers to determine the feasibility of a statewide system of computerized vocational information was of paramount concern. School districts throughout the State and Nation were realizing the potential of such a program. Major initiatives in the expanded program were to include the development of central support and pilot programs as well as regulating expansion of the system.
2. In an effort to improve the learning environment, the development of methods of instruction which emphasized individualized instructional techniques were to be promoted. These projects were to remain cognizant of methods that were applicable to instruction in all

occupational categories, thus breaking the traditional classroom learning cycle.

3. The development of new and innovative instructional techniques emphasizing technological progress were to be initiated in order to consolidate the educationally technological advances of recent years.
4. The Illinois Advisory Council on Vocational Education recommended that the Division of Vocational and Technical Education "require that each school include a provision for a system of placement and follow-up of all vocational and technical students as a part of each local plan." The objective here was to support the establishment of a model placement and follow-up system at the high school level.

Goal #4 To plan and initiate a system which insures the implementation of significant research and development results.

The fourth goal of the unit specified the initiation of a system which insured the implementation of significant research and developmental results. Dissemination must be included as a fundamental requirement of all research projects in order to bring new concepts and principles closer to the potential user. Major emphasis was to be placed on bringing successful research and development results to the schools in the State of Illinois.

1. A system for the dissemination of research and developmental materials and findings was to be initiated at the state level. Such a system was to provide new and creative

concepts of vocational education in schools and school systems throughout the State of Illinois. Activities in this area were to provide a valuable link between the research and developmental results and the local educational agencies.

2. Exemplary projects were to be initiated which implemented and provided visibility for outstanding research and development projects. The scope of such programs were to include orientation and exploration, development of work habits and attitudes, acquisition of job skills, and the improvement of teacher competencies. The focus of these programs was to include all students, but special emphasis was to be given to non-college bound youth and more particularly to youth with academic, socioeconomic, or other handicaps. These projects were to be established at all levels of education and directed to both in-school and out-of-school youth.

3. A great deal of visibility was given to vocational education in Fiscal 1971 through the Research and Development Unit's "demonstration center concept." Support of demonstration centers spotlighting viable programs in vocational education was to be continued. Expansion of the demonstration center concept and seed money for programs demonstrating

new and creative ways of reaching youth with socioeconomic, academic, and other handicaps was termed as a necessity for Fiscal Year 1972.

4. In order to successfully achieve the above objectives, the Research and Development Unit was to assist in developing workshops and conferences for the purpose of dissemination of research and development projects. Money was to be allocated for the printing and publication of brochures, pamphlets, etc. as necessary to carry out the dissemination of research and developmental materials and results.

The resources that were available for funding research, development, and exemplary projects amounted to less than 3% of the total budget of the Illinois Division of Vocational and Technical Education. This severely limited the number of research and developmental activities that could be undertaken during the Fiscal Year. A careful selection of priorities was not only essential, but very critical.

The Research and Development Unit operated by a "Master Plan for Research, Developmental and Exemplary Activities" with broad general priorities for the two Fiscal Years prior to Fiscal 1972. This was brought about by a steady increase in the Unit's budget from $425,285 in Fiscal Year 1966 to the present budget of just under $1,000,000. With this increase in money, came an increased need for accountability, direction, and responsibility on the part of the Unit to provide a system of priority determination to insure the most effective and efficient use of money.

PRIORITIES FOR FISCAL YEAR 1972

The Research and Development Unit received just under $1,000,000 of Federal funds to support research, developmental, and exemplary activities in Illinois during Fiscal Year 1972. These Federal funds were allotted under two categories as specified in the 1968 Amendments to the Vocational Act of 1963. The funds under one of these categories was subdivided and at the request of the Commissioner of Education, allotted to establish demonstration, testing, and developmental sites for career education model programs. The basic categories were:

Part C Funds:

Section 131 (a) -- to be used for demonstration, testing, and development sites for career education model programs.

Section 131 (b) -- to be used for research, developmental, and dissemination type activities designed to meet the special vocational needs of youths.

Part D Funds:

Section 141 -- to be used for exemplary type activities designed to "demonstrate" and "spotlight" outstanding research and developmental activities in vocational education.

The demands on the Fiscal 72 money in terms of needs and requests have more than doubled since Fiscal 1971. In order for a maximum number of research, developmental and exemplary activities to be initiated or

continued and at the same time provide support for research activities related to career education, optimum planning and detailed justification in terms of setting directions and establishing priorities were necessitated. Priorities had to be selected which would provide data and information from which alternatives could be derived and sound decisions made in policy development at the state and local level. This constraint, as well as previously established goals and objectives directed at a single purpose established by the Unit for Fiscal 1972, generated the following priorities.

Part C, Section 131 Priorities

Priority #1 Development of an Automated Vocational Data Information System Consisting Primarily of Occupational Program Supply Data, Manpower Demand Data, and Vocational Teacher Supply and Demand Data

The intent of this activity was to furnish the Division of Vocational and Technical Education with an automated system of data collection and retrieval capable of providing accurate information for decision-making and policy development at the state and local level. It was anticipated that such a system would enable the Division to better set forth directions and monitor results if they knew how and to what extent the vocational education programs were achieving specific objectives. Without feedback from the operations being conducted within the state, it was virtually impossible for the Division to learn from past experiences. The objectives for this proposed management information system were defined as:

1. Development of an automated vocational data information system designed to accumulate and tabulate raw data on students, teachers, and programs in vocational education.

2. Utilization of summary tapes from the U.S. Department of Commerce 1970 Census to accumulate raw data on occupations, incomes, educational levels, and mobility levels for enumeration districts in Illinois.

3. Support of manpower demand studies necessary for analyzing and assessing vocational education supply information for geographical areas within Illinois

The total Management Information System was visualized as two major components directly related to vocational education, namely, manpower demand and vocational supply.

Supply: The source and quantity of vocational education graduates and unemployed workers is an essential factor in program planning. In the past supply data has primarily consisted of:

1. Insufficient local market information
2. Manpower publications containing state and national trends (not by local area).

In order to completely analyze manpower supply information, statistical data on students, teachers, and programs, census data including occupational supply data for selected geographical areas within Illinois, and identification of occupationally trained graduates from training agencies were needed.

Demand: By utilizing present methods for analyzing supply data, utilizing existing supply information, and adding specific local studies, demand indiciations were to be obtained. This could then be supplied to the state and local planners in a usable format.

The vehicle for management, and in turn decision-making, is information. The management information system was projected as a source for forecasting state department program plans, making annual reports, supplying the State Board of Vocational Education and Rehabilitation with information for making decisions about educational programs, and providing unduplicated "nose counts" for program identification and reimbursement. Much of data suggested was available, but not in a manageable form.

Priority #2 Cost Differential-Cost Benefit in Vocational Education.

The intent of this activity was to provide the Division, the Board, and other interested agencies with cost data information necessary to make sound decisions for funding policies at the state and local level. Accountability has long been a major concern of all individuals involved in decision making at the state and local level. Legislators, educators, and the public in general have focused their concerns upon the number of students served by our educational institutions, the adequacy and/or quality of services rendered, and the resultant need for tax dollars.

The amount of public funds needed to maintain, improve, and extend vocational education has always exceeded the availability of resources.

This in turn has dictated that available funds be wisely expended to meet the needs of individuals and society, that adequate justification for current and increased levels of funding be provided, and that decisions be made between program alternatives.

A study was projected for the area of cost differential and cost benefit to determine the following:

1. The actual cost of offering vocational programs at all levels.
2. The differential discipline cost for occupational offerings on a discipline and student hour basis as compared to "academic programs."
3. Operational and non-operational expenditures on a discipline basis.
4. A per student cost for the maximum number of students which should be accommodated by a specific program.
5. Methods of allocating cost to local educational agencies.
6. Cost differential of operating programs in public schools as opposed to private agencies and/or by special contract.
7. Systems for the collection, processing, summarization, and comparison of cost, enrollment, and reimbursement data.
8. Evaluation of the "return on the dollar" in terms of training production costs and placement results.
9. Recommendations for future funding policies.

This study was to be designed in such a way that it would provide the Division of Vocational and Technical Education, the State Board of Vocational Education and Rehabilitation, and other interested boards and agencies with the necessary cost data and information to make sound decisions on future funding policies. The study was also to provide indirect data on the number of students, teachers, programs, types of programs, administrative and indirect cost and numerous other items deemed necessary for successful management of vocational education in Illinois. Cost differential and cost benefit designs for application by local educators was also of major concern.

Priority #3 Research Assistance for Implementation of a Statewide Evaluation System to Assess Vocational Programs in Secondary and Post-Secondary Institutions.

As a result of the recommendation by the National Advisory Council on Vocational Education, Congress included a mandate in the Vocational Education Amendments of 1968 that required states to evaluate their vocational education programs. The State of Illinois decided to fulfill this requirement through the design, development and implementation of a state-wide system for the evaluation of occupational programs. The two major contributions to vocational and technical education projected from this system were more effective local evaluation and planning and more effective state-wide evaluation, planning and distribution of funds.

Project objectives were to be developed to coincide with the present objectives for program evaluation established by the Division's Program Approval and Evaluation Unit. Specific emphasis was to be on the on-site

evaluation phase of the Three-Phase System for State-wide Evaluation of Occupational Education Programs. The primary objective was implementation of the Evaluation System on a state-wide basis. Subordinate project objectives were presented as tasks to be accomplished. The eleven tasks identified for full implementation of the project included:

1. Devise pre-visistion evaluation forms.
2. Develop training programs for Associate Evaluators.
3. Develop and field test orientation programs for team members.
4. Field test and refine orientation program for school personnel.
5. Develop a Handbook for self-evaluation of occupational education programs.
6. Develop a brochure for team members.
7. Coordinate pre-evaluation data processing.
8. Coordinate total visitation data processing.
9. Design a procedure for the identification and notification of schools and team members.
10. Design the organizational format of a summarization workshop.
11. Refine the Three Phase System for State-wide Evaluation of Occupational Programs to include the newly developed components.

Priority #4 — Follow-up of Vocational Education Graduates, Dropouts, and Completions and the Implementation of a Model Placement and Follow-up System at the High School Level.

The intent of this activity was to design an automated (organized) system of follow-up to coordinate the collection, processing and

reporting of data on completions, dropouts, and graduates of vocational programs. An automated (or manual) follow-up information system to determine what career an individual vocational education student was practicing and if the student was working in the capacity he was trained for in his career education program was needed along with a system of information retrieval designed to relate the response of occupational programs to students and society needs. To design a follow-up system containing graduate completion and dropout information so that it could eventually become an integral part of the total management information system (Priority #1) required that it be product, rather than process, oriented. In addition to a model, guidelines were needed to assist school administrators in implementing effective job placement and follow-up services in their respective schools.

The follow-up system was to be designed to coordinate the collection, processing, and reporting of data on completions, dropouts, and graduates in vocational education. The design of the system was to encompass a logical spreading of the responsibility for data collection, preparation, and processing among the agencies best able to handle a particular phase of the system. It was very evident that this type of a design would require a cycle for continuous feedback concerning desired changes while allowing modification of the system to improve its effectiveness. Information was to be obtained to determine:

1. What happened to the occupationally trained students?
2. How many were employed?
3. In what areas were they employed?

4. How many students continued their education?

5. How many were unable to find a job?

6. How much money were the students earning?

It was desired that the projected job placement and follow-up service be organized and field tested in a local comprehensive high school. This would provide considerable data on the strategies and methodology needed for state-wide implementation as well as the cost and anticipated benefits of such a program. The system was to be designed to assemble, process, and interpret summaries of data in formats usable by management in order to allow administrators to devote their energies to their proper professional task of devising better educational strategies and programs.

Priority #5 — An Independent Evaluation and Assessment of the Impact of Research and Development Activities Supported by the Division since the beginning of the Unit.

The intent of this activity was to evaluate the past efforts of the Research and Development Unit by determining the effect of project results on change in vocational education. The philosophy has been that the efficiency and effectiveness of vocational education could best be improved by developing and disseminating information regarding innovative instructional concepts and programs. An evaluation of the activities conducted during the past six years as well as determination of the extent of involvement by local educational agencies engaged in special contracts with the Research and Development Unit was expected to yield guidelines for establishing future policy regarding contractual

agreements for needed research to insure total planning and maximum change as the end result. The Research and Development Unit, since its inception in 1965, has supported a variety of innovative research, developmental, and exemplary activities in the State of Illinois.

The project proposed to (1) identify the pattern of change taking place in Illinois in different categories as a result of research, development, and exemplary activities, (2) to determine the relationship of local support, program change, and policy direction as a result of the funding investment, and (3) to determine areas requiring new or additional efforts. The procedural activities, although dependent upon the evaluation agency, was stated as a study of past, existing and planned programs in order to analyze the pattern of change as a result of research, developmental, and exemplary activities.

The target group for this study was to be the administrator and teacher-practitioner involved heavily with innovative programs and curricula. The results of research utilization including program change, maximum benefit to youth, and local support was to be the target categories of the evaluation.

Priority #6 — A Study to Assess the Environmental and Ecological Needs in Career Education and their Impact on Future Decision-Making and Priority Funding from the Division.

The purpose of this project was to introduce environmental studies into existing courses at various occupational levels and to stimulate the development and implementation of new environmental courses at various occupational levels. Experts have predicted that it is only a matter

of time until the world, as we know it, will cease to exist. Since industry has been given credit for a large share of the pollution, it was only proper that industry and vocational education become involved in the preservation of our Nation's ecology.

Learning experiences in environmental sciences must be included as a part of the occupational programs. Occupational programs must not only prepare persons to earn a living, but also to conserve the environment in which they work. If individuals are going to improve the quality of our environment, training programs must be designed to not only make the student aware of the problems and willing to do something about them, but also to provide the necessary knowledge and skill to act wisely regarding such problems. The proposed study was to be designed to answer the following questions.

1. What major environmental competencies are needed for various occupational areas?
2. What are the attitudes of persons at various educational and industrial levels toward environmental problems?
3. What environmental concepts and/or competencies should be included in elementary, secondary, post-secondary and adult career education programs?
4. How should total programs or modules for environmental science be structured?
5. What are the implementation procedures for programs or modules into career education at all levels.

6. What techniques are needed to establish programs in environmental science?

The desired results were programs for training personnel for jobs in environmental science, program modules designed to teach respect for ecology in regular vocational programs, and models for planning and initiating environmental science studies at all levels.

Priority #7 — Research Assistance for Maximizing Human Resources and Economic Development in Designed Areas of the State with Emphasis on Occupational Education

The intent of this project was to develop alternative occupational education approaches to maximize human resources in the seven county tier region of southern Illinois. An alternative occupational education program and facility approach to maximize the region's human resources was the projected end result as well as a synthesis of complementary studies and analyses regarding available human, economic, and natural resources for the region.

The study to maximize human resource development in southern Illinois was to be coordinated through the Division of Vocational and Technical Education in cooperation with localized agencies. For the execution of the task as a whole, it was proposed that a Human Resource Development Planning Team be formed. The team was to be composed of experts consisting of educational consultants and regional development consultants as well as interested citizens.

The project was to be conducted in two major phases. The first phase was to be an in-depth evaluation of the seven tier counties in terms of the people, natural resources, jobs available, and area potential. The second phase was to include implementation of the recommendations resulting from the planning phase. It was anticipated that the results of this study would provide a basis for directing future development of vocational-technical programs in the seven tier region and suggest how the appropriate training might best be implemented to reach those people who desired it.

In addition to the seven priorities identified as new activities for 1972, five projects conducted during 1971 that possessed outstanding research and development characteristics were recommended for continued funding during Fiscal Year 1972. They were:

1. A Research and Development Project in Occupational Education: The Development of Process Models for Decision-Making in Curriculum Development and Evaluation

   This project, better known as the Illinois Occupational Curriculum Project, was conducted under the auspices of Joe Borgen and Dwight Davis at Joliet Junior College. It represented a management systems approach to occupational curriculum development and evaluation in that process models were being developed for occupational education. A "systems package" was developed through different research and development activities which contained management strategies,

guidelines, and activity manuals to assist local occupational curriculum planners in the identification, development, implementation, and evaluation of occupational programs. These guidelines were to be utilized with a series of workshop sessions to orient curriculum planners to the utilization of the process models as well as to stimulate research on related problems.

2. Facilitating Career Development at the Elementary School Level

   This project, being conducted by Dr. Ronald Stadt of Southern Illinois University at Carbondale, was designed to provide teacher educators and classroom teachers with a career development model relating age, vocational development tasks, educational objectives, and behaviorally oriented occupational content in a definite way. The curriculum guides and supporting instructional materials were to be developed along with systematic programs for the preparation of teacher-educators, classroom teachers and guidance personnel.

3. Project A.B.L.E. (Authentic Basic Life-Centered Education)

   The A.B.L.E. Model, developed by Dr. Walter Wernick of Northern Illinois University, was an approach to instruction whereby organizing centers for the curriculum were utilized. This concept was not entirely new. However, combining it with authentic,

basic, life-centered education did represent an innovative and creative approach to developing a new delivery system. It was anticipated that by bringing process and content together, a powerful teaching instrument for occupational education would be created.

4. The Development of a Systems Model(s) for the Collection, Processing, Summarization and Comparison of Course Cost, Enrollment and Reimbursement Data at the Community College.

   The development of this coordinated educational data processing center was under the direction of Dr. Robert Tomlinson and Mr. Chester Rzonca at the University of Illinois. The study was conducted to provide recommendations necessary for the implementation of an automated data processing system at the junior college level designed to collect, process, and summarize student, faculty, course expenditures, and resource data. The study was to be continued in order to provide expenditure and revenue data, utilizing existing source documents, on a course section basis to demonstrate the potential of the system. The collection and processing of section data was to not only illustrate (1) possible report formats, (2) costs based upon operational expenditures, and (3) the relative

adequacy of selected resource monies, but more important as a test situation containing the types of problems which might be encountered in the implementation of such a system and as a basis from which recommendations for a total system could be made.

5. Nuclear Radiation Project Study

A survey was conducted by Arthur Baker and William Phelps of Crystal Lake Community High School to gather information relevant to employment in the area of nuclear energy. The anticipated manpower needs of the nuclear radiation industry in northeastern Illinois for the next decade was determined. This manpower need was then compared to the personnel being trained for this type of work. As a result of the survey, the project directors estimated that 2,300 nuclear reactor operators and 15,000 nuclear technicians would be needed by 1980. Curriculum materials for grades 9-12 were to be developed, tested, and evaluated for implementation into the classroom. A laboratory-oriented one semester course in nuclear radiation technology for secondary level students was to also be developed and tested.

During the Fiscal Year 1971 a surplus fund was generated from unspent obligations. This balance of Fiscal 71 funds was used to provide continued funding during 1972 to the following two projects:

1. Technical Physics

   This project, conducted by a group of individuals from Parkland College, was a developmental effort to provide a meaningful physics program for students who did not aspire to a college education. The intent of the project was to isolate the content of the physical sciences necessary to build skills for success in vocational and technical education. Unlike other physics texts, this material was to be written at a language level and at a mathematics level realistic and beneficial to most students in vocational and technical programs. Physical concepts and applications that apply to the industrial-technical fields were to be emphasized in order to improve the physics and mathematics competence of the students.

2. A Follow-up Study of Illinois Home Economics Job Training Programs

   This follow-up study was initiated by Dr. Kathleen Howell of Eastern Illinois University to determine the effectiveness of the 1968-69

and 1969-70 high school Home Economics Cooperative Education program on graduates as indicated by the graduates themselves and their post-high school employers. The rationale for using evidence provided by graduates and employers on program weaknesses and/or strengths was supported by leadership consensus on the validity of such evaluative input. The design of the continued study was to include provisions for the development and pilot-testing of the instruments, identification of the graduate and employer populations, and the acquisition of data. Responses were to be tabulated, summarized and analyzed for emerging patterns and implications drawn for future program development.

The Discretionary Funds made available from the Commissioner of Education enabled the Illinois Research and Development Unit to provide continued, in-depth support for research, developmental, and exemplary career development programs which emphasized an articulated and coordinated K-14 system. A total of $382,790 was made available to the State of Illinois to establish demonstration, testing, and development sites for career education model programs. In lieu of defining a number of sub-priorities to accomplish these ends, one broad and general priority was defined. A number of activities were then

delineated from this priority to complement the development of a comprehensive occupational education program.

The researcher and developer of a comprehensive education program must direct his actions toward emphasizing total career development. A program that will take the young child as he enters school and provide him with the educational opportunities needed to prepare for the World of Work must always remain foremost in the mind of the researcher and developer. The development of such a system, dependent upon articulation and coordination of certain premises, was defined as the broad priority for utilization of the Discretionary Funds.

A comprehensive occupational education program must begin at the elementary level. Information about the World of Work must be taught to students at that age. The relevancy of their entire educational process is dependent upon their understanding and grasp of the prospects for the future. Occupational orientation about specific vocations must also be provided at the upper elementary level and during the first years of high school. The result of such efforts should be junior and senior students who are aware of the World of Work and equipped to determine the occupational experiences which can provide them with the skills required to enter their chosen profession.

The schematic for such a comprehensive occupational program should include provisions for educational experiences in all occupational categories. Students should have the opportunity to select courses in any of the following subject matter areas:

1. Applied Biological and Agricultural Sciences
2. Business, Marketing, and Management
3. Health Occupations
4. Industrial Oriented
5. Public and Personal Services.

In order for this system to be comprehensive, it must provide educational offerings for all target populations including the disadvantaged, handicapped, elementary, secondary, post-secondary and adult segments.

As research and developmental activities yield the mechanics and procedures by which the occupational categories can best be presented to the target populations and it has been determined what the course offerings should be, efforts can be made to establish model programs at various selected schools throughout the state.

One of the activities delineated to complement the broad priority was to schematize a conceptual model with accompanying materials in order to provide guidelines and give impetus to career development programs for elementary school students. The operational task was to be one of defining behavior descriptions which encompassed the various developmental levels and then design learning experiences necessary for individuals to successfully cope with the demands of each vocational developmental task. By reviewing, synthesizing and interpreting the body of literature and research related to career development, it was anticipated that teacher educators and classroom teachers could be provided with a career development model relating age, vocational

developmental stages, vocational developmental tasks, educational objectives, and behaviorally oriented occupational content in a definitive way. A secondary objective of this activity was to stimulate further research to aid in the facilitation of career development for children and youth.

Another activity delineated from within the broad priority was to provide an approach to instruction which would place primary emphasis upon the "World of Work" as an organizing center for the curriculum. The focus was to be upon creating a theory of practice whereby teachers would begin with significant content drawn from life activities. It was projected that relevant content such as this would aid teachers in managing their instructional support systems and would in turn relate people-oriented activities with the needed skills, facts, and attitudes for such tasks. The development of instructional materials to help teachers manage organizing centers was not deemed as an entity within itself for this activity. Clinical assistance in planning lessons and units, consultant service for school principals, learning center directors, and elementary school counselors, in-service programs for schools, districts, and institutes, and information programs for parents, lay advisory committees, school boards, and other interested community organizations were conceived as vital parts of the network for this activity. The residum of this activity was to include a clearinghouse for ideas and materials pertaining to the methodology of presenting occupational information to children.

Since the broad priority emphasized an articulated and coordinated K-14 system, a third activity was delineated to concentrate on career education at the secondary and post-secondary level. Complete coverage of the K-14 system was somewhat restricted by the availability of funds. Rather than to stress a fragmented activity approach which would have limited the depth of development for the secondary and post-secondary levels, special emphasis was given to developing a career education program for grades 9-12. The intent of the activity was basically the same as for the activity pertaining to the elementary school. A conceptual model with accompanying materials to provide guidelines and give impetus to career development programs for 9-12 students was the desired outcome. The philosophy for delineating this type of an activity was that by providing support for the state-wide adoption of significant model programs in career education with particular emphasis on schools and school systems having large populations of disadvantaged and/or handicapped students, it should be possible to foster coordinated updating of curriculum and program planning in the local educational agencies.

Part D, Section 141 Priorities

Priority #1 — Demonstration Centers: Support of Demonstration Centers spotlighting Viable Programs in Vocational Education in a variety of Occupational Areas, i.e. Health Occupations, Business Management and Marketing Occupations, Personal and Special Service Occupations, Applied Biological and Agricultural Occupations, and Industrial Oriented Occupations.

The intent of these centers was to spotlight viable programs in vocational education which demonstrated (a) local initiative and commitment

in meeting the needs of students, (b) new approaches to problem areas in vocational education. The demonstration centers were to provide teachers and administrators with an opportunity to receive information, curriculum guides, resource materials, etc. that would assist them in meeting the needs of students in the various age groups, ethnic groups, etc. It was anticipated that by making exemplary programs visible, new directional changes in the educational process would be identified and spread to other school districts. Seed money was to be utilized for implementing programs demonstrating new and creative ways of reaching youth with socioeconomic, academic and other handicaps in order for teachers, administrators, and local communities to view vocational education as an integral part of the total educational program.

Priority #2 Implementation of Model Career Education Programs

The title programs, as well as other special programs of national significance, have had a tremendous impact on education. The full impact of these programs, geared toward school systems having the greatest need and being the least able to afford educational innovations, have been limited by the fact that communities with large disadvantaged populations still lack the funds necessary to operate additional programs. The intent of this activity was to provide seed money for the implementation of tested research and developmental career education projects in order to bring about a total career education program. Many tested research and development projects have contributed innovative concepts to vocational education. These new concepts have

often been allowed to lay idle for many years, only to be rediscovered at a later date by another project. By taking the necessary steps to bring these innovative concepts into practice, several significant outcomes were anticipated in the following areas.

1. Exploration of alternate avenues of delivering education were to be investigated to determine if modification and adaptation of method of delivery were more important than the materials or amount of materials available.
2. The ultimate goal of all education must be to help provide students with means of surviving in our society, and to survive in our society means to be occupationally competent. Techniques for establishing Career Education programs as an integral part of the total educational system, if not the nucleus upon which it is built, were to be devised.
3. Career Education programs were to be analyzed to determine if they require less money than the fragmented efforts presently directed toward meeting the needs of students.
4. Career Education programs must have a commitment from all facets of a community in order to better the educational opportunities for students. This activity was to provide a model for community participation in career education programs.

Priority #3 An Exemplary Program Based on Integrated Measurably Stated Behavioral Objectives

The intent of this activity was to develop a model exemplary program based on measurably stated behavioral objectives tailored to the individual student in terms of time and method as well as content. The major obstacles to accountability in vocational education have been the traditional class structured expectations and time oriented courses inherent in most educational planning. Formats, methods, and materials to increase the accuracy of technical education programs were to be developed in order to facilitate transition from the academic setting to the occupational setting. The results of this project was to be a model for accountability, method-media mix, measurably stated behavioral objectives, unitized instruction leading to greater individualization of instruction, and more efficient utilization of facilities and equipment in technical education programs. A secondary result of this activity was to determine the mechanics for continuous registration and maintenance of student records via computer, thus enabling a student to proceed at his own rate based on predetermined objectives rather than by a structured course on a semester basis.

In addition to the three priorities identified as new activities for 1972, two projects conducted during 1971 that possessed outstanding exemplary characteristics were recommended for continued funding during Fiscal Year 1972.

1. Aviation Mechanics Program

This project, directed by Edward Blue of East St. Louis School District #189, represented a joint agreement between Belleville Area College and East St. Louis School District #189. It was designed to give young men, particularly the disadvantaged students, an opportunity to acquire the knowledge and skills required for employment at the beginning level of various jobs in aviation mechanics. This program was unique in that it introduced an aerospace studies program into the high school vocational curriculum to expose as many students as possible to an area of work. The continuation of this project was used as a vehicle to motivate young men to stay in high school and advance into institutions of higher learning for further study of aviation and/or space age technology.

2. Air Frame-Power Mechanics Program

This project, directed by Edward Wirth of Cahokia District #187, provided an innovative type of vocational education program in the areas of air frame and air power mechanics designed to enhance the future employment opportunities of young men in the various job classifications found in the aerospace industry.

Not only did this program serve as a motivational factor for underachievers, but it also motivated the study body, especially the young boys, to remain in school and prepare themselves for the adult work world. A joint agreement between Cahokia School District #187 and Parks Aeronautical College enabled interested students to continue their education and training beyond the secondary level.

A balance of Fiscal Year 1971 funds was used to provide continued funding during 1972 to the following two projects:

1. Computerized Vocational Information System (CVIS) Demonstration Center

   Project CVIS serves as an illustration of the kind of innovation which can be developed and implemented when local enthusiasm and resources converge with government funds. Its primary objective was the development of a highly sophisticated computer based system to assist students in exploring occupations in order to make an intelligent decision regarding their occupational choice. The project was recognized by National, State, and International Governments as one of the most innovative concepts in the world of education. The demonstration center, directed by Lorraine Foster of Willowbrook High School, was designed to disseminate information about CVIS,

conduct workshops and assist in the implementation of the project in schools nationwide.

2. The Preparedness Program

The "Preparedness Program" was conducted by Troy Simpson of Parkland College to provide "developmental" education to students in Junior College District #505. This educational experiment was designed to encourage, recruit, and motivate disadvantaged students who were unlikely to actively explore and pursue an educational program for themselves within the existing educational structures. Socioeconomic and academically disadvantaged students were given the opportunity to participate in a successful educational experience within the framework of a community college. A major outcome for students in this program was increased self-awareness, self-appreciation and understanding, and identity formation.

Research & Development--Discretionary--Exemplary

Activities Initiated During

Fiscal Year 1972

The Illinois Research and Development Unit was involved in the funding and administration of three broad major project categories during Fiscal Year 1972. These three broad categories included research and development, discretionary, and exemplary. The priorities established for each of these categories were absolutely essential in an operation of this type to insure that the limited amount of allocated funds were expended for the best possible results. In conjunction with this basic philosophy, as well as mandates of the Acts and trends in the field, the following activities were selected to fulfill the priorities set forth for Fiscal Year 1972.

Research and Development Activities

Rationale

Research activities were defined as those activities that center upon either pure or basic research as it relates to vocational education. These activities placed major emphasis on program evaluation and cost accountability and were designed to aid in planning and "decision-making" at the state and local level. Developmental activities involved both the design and implementation of instructional materials and curriculum models. Many of these activities were originally initiated as research projects and were transferred into a developmental project when it became time for implementation.

RDC-A2-061 Implementation of a Statewide On-Site Evaluation System

Dr. T. L. Wentling, University of Illinois, Urbana

As a result of the recommendation by the National Advisory Council on Vocational Education, the legislature included a mandate in the Vocational Education Amendments of 1968 requiring states to evaluate vocational programs. The State of Illinois fulfilled this requirement through the design, development, and implementation of a statewide system for the evaluation of occupational education programs. The two major contributions that this project made to vocational and technical education were more effective local evaluation and planning and more effective statewide planning and distribution of funds. Project objectives were developed to coincide with the present objectives for program evaluation established by the Division's Program Approval and Evaluation Unit. Specific emphasis was on the on-site evaluation phase of the Three Phase System for Statewide Evaluation of Occupational Education Programs. The primary objective achieved was the implementation of the evaluation system on a statewide basis.

RDC-A2-078 Review and Assessment of the Change and Impact on Occupational Education Resulting from Research and Development Activities Supported by the Division of Vocational and Technical Education of Illinois

Fred Carvell, Tadlock Associates, Inc., Los Altos, California

The research study conducted by Tadlock Associates, Inc. covered an evaluation and third party assessment of the research, developmental and exemplary activities sponsored by the Research and Development Unit

of the Division of Vocational and Technical Education in Illinois since 1965. The focus of the study was directed toward projects funded under Part C of the 1968 Vocational Education Amendments. However, programs funded under Part D or other sections of the 1968 Vocational Education Amendments were included as necessary. Included in the third-party assessment were both programs and projects that had been completed since 1965 and those still in progress. The third-party assessment helped the Unit to identify strengths and weaknesses and suggested avenues and guidelines for future support in research activities that were consonant with state and federal priorities.

RDC-A2-079 Development of a Systematic Approach to Follow-up Evaluation
Joyce Felstehausen, Eastern Illinois University, Charleston

In cooperation with the Eastern Illinois University Computer Center, an automated system was designed to gather, process and interpret follow-up data on a state-wide basis. Decision models were developed to aid in analyzing data areas indicated by the computer center as not being appropriate for computerization. A cooperative Home Economics Study, completed in 1971 as an exploratory phase of developing a systematic approach to follow-up evaluation of career education graduates, provided a replicable research design and tested instruments for this study. Almost 12,000 secondary level graduates were surveyed during the 1972-73 school year. This systematic approach to state-wide follow-up evaluation is capable of providing some informational-input from every geographical area and from every school on a regularly scheduled basis.

RDC-A2-081 Cost Differential Analysis in Regular Secondary Vocational Programs and Area Vocational Centers in Illinois

Dr. Dennis Nystrom, Southern Illinois University, Carbondale

Program planning through priority funding techniques, such as those utilized by the Division of Vocational and Technical Education, virtually requires that specific economic data be made available to local directors, superintendents, and state office personnel. The program planning function, coupled with public concern that occupational education be accountable, emphasized the need for the development and utilization of a cost accounting system for regular secondary and area vocational centers. The purpose of this research project was to develop a data collection system for the aforementioned occupational programs in selected school districts within the state. The data collected from this research was to be utilized in decision-making activities at all levels with regard to assessing differential costs and ultimately determining the return per dollar invested in occupational programs.

Discretionary Activities

Rationale

Discretionary activities were defined as those research and development projects which focus on establishing a meaningful, comprehensive, well-developed career education program possessing strong guidance and counseling components. The projects were defined in such a way as to emphasize careful measurement of student outcome in relation to the treatments

attempted and to provide for appropriate program revisions where indicated. Each project was comprehensive in nature, that is, it either cut across all educational experiences of a student at a given grade level or else was an integral part of a comprehensive program. The ultimate goal of the discretionary activities was to establish demonstration, testing, and development sites for career education programs within the state.

RDC-A2-083 The World of Work as an Organizing Center for the Curriculum of the Elementary School

Dr. Walter Wernick, Northern Illinois University, DeKalb

The ABLE Model Program, a research and development project at Northern Illinois University, constructed a visible model with "The World of Work" as the organizing center for the curriculum of the elementary school. The research team believed that the study of occupations was a suitable place to start instruction for young children. In cooperation with the public school districts and the University School, "content" opportunities of occupations were identified and linked to other significant areas of the traditional curriculum. This rationale had been suggested by many educational reformers but never organized into an instructional plan of this magnitude. The ABLE Model Program built a "visible" teacher, one whose planning, implementation, and evaluation was based upon performance criteria. This teacher was placed in "visible" setting so that support systems which complemented the teacher's instructional program were also available for review. Accent upon teacher utilization of the resources of the school and community

enabled the systems to project new dimensions of an elementary school teacher's work.

RDC-A2-084 The Career Development for Children Project

Dr. Larry Bailey, Southern Illinois University, Carbondale

The stimulus for the Career Development for Children Project resulted from a reorientation in the philosophy of vocational education. As a result of the Vocational Education Act of 1963 and 1968 Amendments, the role of vocational education has shifted from an emphasis on filling the requirements of the labor market to meeting the needs of people. Current vocational education legislation acknowledges that "preparation and assistance in making an occupational choice may be a more valid determinant of future employment success than specific skill training." Additionally, the project has been nurtured in recent years by a growing public awareness of the failure of the education institution (e.g., Crisis in the Classroom and the Greening of America) and a more active role in career education by the U.S. Office of Education. The Career Development for Children Project was designed to involve children, beginning in elementary school, in experiences which facilitated the broad goal of "vocational maturity." Vocational maturity was used to denote something different than traditional vocational education which is usually geared to specific skill training, or in the elementary grades, to a study of occupational information. The curriculum was not aimed at teaching manipulative skills or presenting stereotyped pictures of the work community. Each of eight levels were presented in the form

of complete instructional package. Components included a teacher's manual; student materials and texts; and supporting instructional aids (e.g. study prints, transparencies, and filmstrips). The content was organized in the form of instructional units which included (1) purpose (2) terminal objectives (3) primary activities (4) instructional materials (5) reinforcing activities and (6) related references. Innovative activities and materials were specially created to achieve previously designated objectives. A distinguishing feature of the program is its flexibility which makes possible implementation in many types of local school situations.

RDC-A2-085 Career Education 9-12

John Hlavach, Peoria Public Schools

This project has been designed to garner community support for providing a comprehensive program of career education to all high school students in Peoria School District No. 150. The following four major areas related to career education for grades 9-12 were concentrated on.

1. Establishment of a model placement center at the secondary level.
2. Establishment of a Community-Industrial Council to be headed by an industry-education coordinator.
3. Investigation of a new approach to cooperative experience for all students (Career Education Internship).
4. Implementation of the cluster programs as identified by U.S.O.E. and the State of Illinois.

The resources within the community were used by the schools for supplementing existing programs and for expanding the vocational opportunities. The need to offer secondary students an expanded vocational offering and career guidance service was accomplished to a limited extent by involving the entire community. The total program was coordinated with the K-8 career education project funded by U.S.O.E. and directed by Dr. Chet Dugger.

In addition to these projects the Illinois Division of Vocational and Technical Education has made arrangements with a private consultant agency to conduct a third-party evaluation of the three aforementioned career education projects. The intent of the evaluation is to determine the overall impact of the projects in terms of educational effects, administration, and student and community impact. The various components of each project are to be analyzed to determine how they relate to each other and the consequences of changing one component of a particular project in terms of its effect upon the project as a whole. Objective and subjective data will be utilized to measure the significant outcome of each project and the final report will identify the transferable components as well as recommendations for each project evaluated.

Exemplary Activities

Rationale

Exemplary activities funded by the Research and Development Unit were based on successful research, development and discretionary project results. Outstanding innovative projects were selected and funded on a

Demonstration Center Concept. These demonstration centers highlight operational programs which exemplify new concepts in vocational education, or new approaches to problem areas in vocational education. They were geared toward providing proven innovative methods of reaching students with academic, social-economic, or other handicaps. Through the results of various research, development, and discretionary activities, the seeds of innovativeness was used to motivate local educators to take the initiative in providing relevant programs to meet the needs of their students. Teachers, administrators, and parents had the opportunity to become better informed of the innovative concepts in vocational education through visitations, conferences, brochures, etc. made available through the demonstration centers. This in turn represented a bridge building effort between the school and "The World of Work."

RDD-A2-049 Industrial Engineering Technology Based on Integrated Measurably Stated Behavioral Objectives

Robert Van Raes, Moraine Valley Community College

Utilizing previously developed theories of education and existing technical hardware, this project developed the format, methods, and materials to not only increase the accuracy of technical education programs but to facilitate transition from the academic setting to the occupational setting. Furthermore, the project was designed to result in a model technical education program in accountability, method-media mix, measurable behavioral objectives, unitized instruction leading to

greater individualization of instruction, and more efficient utilization of facilities, equipment and personnel.

RDD-A2-062 Demonstration Center for a Comprehensive Vocational Home Economics Program

Iva Pidcock, Lyons Township High School District #204

This project provided an opportunity for the exchange of ideas among schools in an area where both gainful and useful home economics was taught. Teachers, administrators, and college students were provided an opportunity to observe a comprehensive home economics program in action and to share the resource materials, curriculum innovations, and examples of community and students' vocational needs and aspirations as afforded only by a demonstration center. Consultant service was provided to administrators and teachers in planning and implementing a vocational home economics program as well as developing an on-going self-evaluation of the entire home economics program.

RDD-A2-066 Complete Model Horticulture Demonstration Package for Illinois High Schools

Glenn Curl, Rochelle Township High School District #212

This project was designed to develop and test alternative approaches to implement and maintain occupational education in horticulture. Alternative approaches were developed through a series of horticultural instructional packages fitted to differing school situations.

RDD-A2-067 Improvement of Horticultural Alternatives Packages for Schools with Existing Facilities

Robert Marshall, Naperville Community High School District #107

This project was designed to develop horticultural instructional packages for a demonstration center. Horticultural instructional packages, component parts and demonstration center results were analyzed for cost-effectiveness as well as instructional effectiveness.

RDD-A2-069 Demonstration Center Alternatives for Occupational Education in Illinois

William O. Jahn, Jr., Skokie School District #73½

This project was designed to develop and analyze horticultural packages for a suburban junior high school. Additionally, slide and workbook outlines were completed for horticultural occupational instruction units in bedding plants, growing structures, pot crops, merchandising, plant materials and community environmental projects.

RDD-A2-070 System for Individualized Vocational Education (SIVE) Demonstration Center

Dr. John Bristol, Niles Township High School District #71

The primary purpose of SIVE was to develop a system to individualize instruction for students in vocational courses in the industrial arts, home economics, and business education departments as well as in cooperative vocational education. The purpose of this demonstration center was to provide workshops which demonstrated the system to teachers in Illinois, and to teach them how to use the system in their own subject areas.

RDD-A2-073 Horticultural Instructional Packages: Demonstration Center Alternatives for Occupational Education in Illinois

William Eagleton, Alton Community Unit School District #11

This project was designed to develop and analyze the package approach to implementing occupational education at the junior high school levels in a rural area. The demonstration center provided maximum visibility for disseminating horticultural occupational education in Illinois.

RDD-A2-074 LPN-RN Program

Sally Holloway and Rose Greenberg, Olive-Harvey Junior College

This project was concerned with developing a career ladder from LPN to RN on a statewide basis, thus shortening the time necessary to become an RN. The curriculum for the program was unique in that it gave credit to the LPN for the knowledge and experience she already had, through the use of a challenging examination, making it possible to receive an ADN in seventeen months instead of the usual two years. Not only did this project attempt to determine if challenging examinations could be used to identify what duplication existed in LPN and RN programs, but it also attempted to determine if the present entrance tests are valid predictors of success.

RDD-A2-075 Vocational Information Project

Harold Fuller, Thornton High School District #205

This project was conducted to disseminate information regarding the

importance and uses for career information in grades K-8, local resources for securing career information, and the usefulness of television as a medium for communicating career information to interested individuals. Assistance was made available through the demonstration center in establishing career information programs as well as the local production of video tapes. Educators from all over the state were invited to visit the Thornton Area Public School Association production center and the schools where the video tape programs were being used.

RDD-A2-076 Demonstration Center: Elementary Career Education Program

Jacob Broncato, Joliet Public Schools District #86

The overall goal of Project J.O.L.I.E.T. (Job Orientation Linking Industry and Education for Today) was to motivate students toward the World of Work in education programs by reaching out into the community. This demonstration center conducted drive-in conferences for teachers, administrators, and parents interested in establishing an occupational information program at the elementary school level.

RESEARCH AND DEVELOPMENT PROJECTS

APPROVED FUNDS

Project Number	Title	Principal Investigator and Institution	Contract Duration	State/ Federal Monies	Local Input	Total Budget
RDC-C2-002	A Research and Development Project in Occupational Education: The Development of Process Models for Decision Making in Curriculum Development and Evaluation	Joseph Borgen Dwight Davis Joliet Junior College	8/71-8/72	51,048	11,956	63,004
RDC-C2-003	Facilitating Career Development at the Elementary School Level	Ronald Stadt Southern Ill. University	7/71-6/72	32,495	24,176	56,671
RDC-B2-011	Project A.B.L.E. (Authentic, Basic, Life-Centered Education)	Walter Wernick Northern Ill. University	7/71-6/72	92,855	111,608	204,463
RDC-A1-043	The Development of a System Model(s) for the Collection, Processing, Summarization and Comparison of Course Cost, Enrollment and Reimbursement Data at the Community College	Robert Tomlinson Chester Rzonca University of Illinois	6/71-8/71	5,272	-0-	5,272
RDC-A2-061	Implementation of State-Wide On-Site Evaluation System	Tim Wentling University of Illinois	10/71-6/72	23,398	-0-	23,398
RDC-A2-078	Review and Assessment of the Change and Impact on Occupational Education Resulting from Research and Development Activities Supported by the Division of Vocational and Technical Education of Illinois	Tadlock Associates Los Altos, California	3/72-8/72	23,599	-0-	23,599
			TOTAL	228,667	147,740	376,407

CONTINUED FUNDS						
RDC-A3-056	Nuclear Radiation Project Study - Phase II	Arthur Baker William Phelps Crystal Lake	7/72-6/73	38,812	20,991	59,803
RDC-A2-079	Development of a Systematic Approach to Follow-up Evaluation	Joyce Felstehausen Eastern Illinois University	3/72-2/73	50,004	12,964	62,968
RDC-A2-081	Cost Differential Analysis in Regular Secondary Vocational Programs and Area Vocational Centers in Illinois	Dennis Nystrom Southern Ill. University	6/72-5/73	57,963	13,943	71,906
			TOTAL	146,779	47,898	194,677
APPROVED 71 FUNDS*						
RDB-B2-026	Technical Physics	Dale Ewen Ronald Nelson Parkland College	7/71-6/72	16,017	4,862	20,879
RDC-A1-053	A Follow-up Study of Illinois Home Economics Job Training Programs	Kathleen Howell Eastern Ill. University	6/71-8/71	3,717	1,832	5,549
RDC-A2-056	Nuclear Radiation Project Study - Phase I	Arthur Baker William Phelps Crystal Lake	7/71-6/72	20,718	7,500	28,218
			TOTAL	40,452	14,194	54,646

DISCRETIONARY PROJECTS

APPROVED FUNDS

Project Number	Title	Principal Investigator and Institution	Contract Duration	State/ Federal Monies	Local Input	Total Budget
RDC-A2-083	The World of Work as an Organizing Center for the Curriculum of the Elementary School	Walter Wernick Northern Ill. University	3/72-8/73	166,040	212,135	378,175
RDC-A2-084	Career Development for Children Project	Larry Bailey Southern Ill. University	3/72-8/73	116,193	28,165	144,358
RDC-A2-085	Career Education 9-12	John Hlavach Peoria School District #150	3/72-8/73	85,200	31,509	116,709
RDC-A2-087	Third Party Evaluation of Career Education Projects	Success Research Consultants Olympia Fields	8/72-8/73	15,357	-0-	15,357
			TOTAL	382,790	271,809	654,599

EXEMPLARY PROJECTS

APPROVED 72 FUNDS

Project Number	Title	Principal Investigator and Institution	Contract Duration	State/ Federal Monies	Local Input	Total Budget
RDD-B2-018	Air Frame-Power Mechanics Program	Edward Wirth Cahokia School District #187	8/71-6/72	30,750	28,801	59,551
RDD-B2-024	Aviation Mechanics Program	Edward Blue E. St. Louis School Dist. #189	7/71-6/72	24,030	750	24,780
RDD-A2-049	Industrial Engineering Technology Based on Integrated Measurably Stated Behavioral Objectives	Robert Van Raes Moraine Valley Community College	12/71-6/72	37,730	22,350	60,080
RDD-A2-062	Demonstration Center for a Comprehensive Vocational Home Economics Program	Iva Pidcock Lyons Twp. High School District #204	9/71-6/72	16,679	14,584	31,263
RDD-A2-066	Complete Model Horticulture Demonstration Package for Illinois High Schools	Glenn Curl Rochelle Twp. High School District #212	11/71-6/72	7,790	5,500	13,290
RDD-A2-067	Improvement of Horticultural Alternatives Package for Schools with Existing Facilities	Robert Marshall Naperville Comm High School District #107	11/71-6/72	5,255	4,316	9,571
RDD-A2-069	Demonstration Center Alternatives for Occupational Education in Illinois	William Jahn Skokie School District #73½	11/71-6/72	4,915	2,600	7,515
RDD-A2-070	System for Individualized Vocational Education (SIVE) Demonstration Center	John Bristol Niles Township High School District #71	10/71-6/72	17,395	25,569	42,964
RDD-A2-073	Horticultural Instructional Packages: Demonstration Center Alternatives for Occupational Education in Illinois	William Eagleton Alton Comm.. Unit School Dist. #11	11/71-6/72	9,535	9,442	18,977

APPROVED 72 FUNDS						
RDD-A2-074	LPN-RN Program	Sally Holloway Rose Greenberg Olive-Harvey Junior College	9/71-6/72	40,360	13,371	53,731
RDD-A2-075	Vocational Information Project	Harold Fuller Thornton High School District #205	2/72-6/72	13,756	1,575	15,331
RDD-A2-076	Demonstration Center: Elementary Career Education Program	Jacob Broncato Joliet Public Schools Dist.#86	12/71-6/72	8,430	2,200	10,630
			TOTAL	216,625	131,058	347,683

APPROVED 71 FUNDS						
RDD-C2-021	Preparedness Program	Troy Simpson Parkland Junior College	7/71-6/72	37,643	40,943	78,586
RDD-A2-048	Computerized Vocational Information System (CVIS) Demonstration Center	Lorraine Foster Willowbrook High School	7/71-6/72	111,891	20,703	132,594
RDD-A2-074	LPN-RN Program	Sally Holloway Rose Greenberg Olive-Harvey Junior College	9/71-6/72	20,645	6,586	27,231
			TOTAL	170,179	68,232	238,411

PRIORITIES FOR FISCAL YEAR 1973

A total research program must be more than just collecting and analyzing data, making recommendations and filing final reports. It must also include a comprehensive methodology for problem identification. The staff of the Illinois Research and Development Unit feels that the degree of success experienced by any project is directly related to a total spectrum consisting of a continuation from problem identification to experimentation, implementation, demonstration, and dissemination.

The need for emphasis on the first segment of the spectrum, problem identification, has been substantiated by numerous pieces of Federal legislation which have been passed for the direct benefit of education in general. Monies have been specified for research and exemplary activities which indicate that the need for research in vocational education has been realized at the national level. The Federal Government has inferred that in order for vocational education to progress, significant research must be conducted and more important, it must be on a continuous basis. Research not conducted in a planned and continuous manner leads to inconsistent planning and development which will be reflected in the educational system of tomorrow. With the turmoil in education today, the Illinois Research and Development Unit views priorities as absolutely essential in an operation of this type to insure that a limited amount of allocated funds are expended for the best possible reasons.

A Priority Survey was conducted by the staff of the Research and Development Unit to assist in establishing directions for the research activities for Fiscal Year 1973. (See Appendix B for a copy of the Survey instrument). The survey was designed to:

1. Determine what activities could be initiated by the Research and Development Unit to strengthen the local program of vocational and technical education.
2. Determine what services could be offered by the staff of the Research and Development Unit that are not presently being offered.
3. Determine what individuals and/or agencies would be interested in conducting research in the vocational and technical education area.

The survey was administered to a heterogeneous grouping of vocational educators and lay persons located in Illinois. The survey questionnaire was mailed to 302 persons representing the four distinct groups listed below:

1. Elementary school teachers and administrators.
2. Secondary school teachers, vocational directors, and guidance personnel.
3. Post-secondary vocational directors and teachers.
4. Selected other groups which included DVTE staff, the members of the State Advisory Council for Vocational Education, selected private consultant firms, and personnel representing private industry.

Each respondent was asked to rate twenty-two separate priorities that had been identified by the staff of the Research and Development Unit as being in accord with the Unit's purpose as set forth in the "Systems Approach for Management of Vocational Education in the State of Illinois." The priorities were categorized under five separate goals for instrument clarity and ease of tabulation. Each priority was rated on its own merit utilizing a scale of 1 (not necessary to accomplish goal) to 5 (critical priority). A special effort was made to convey to the respondents that the purpose of the instrument was not to rank the priorities, but rather to rate each priority in terms of how well it met the needs of the goal statement. In addition to rating the priorities, each respondent was asked to comment on:

1. What kind of services could the Research and Development Unit provide to the local education agencies to better acquaint them with on-going research, development, and exemplary activities in Illinois.
2. If "Requests for Proposal" were developed to meet specific priorities, would their agency be interested in receiving notification of these requests.

The results of the survey were significant. A total of 186 questionnaires were returned from the original 302 that were mailed yielding a 61% return. Although this response percentage was approximately 10% below the "generally accepted survey" return standard, it was considered to be adequate since 82% of the local school teachers and administrators responded to the survey. One conclusion immediately visable from

the response percentage was that local teachers and administrators recognize the need for change in vocational education. The results of the priority section of the survey were compiled by mean response for each priority. The mean response for each priority under each goal for the total group sample is illustrated in Figure 4. From the 186 responses received, 122 indicated an interest in conducting research at the local level. Based on the results of this survey, the prorities established for Fiscal Year 1972 that were not funded for one reason or another, the long range plan of the Unit as established by the internal management system, and the results of completed or near-completed projects, a number of major priority areas were established for Fiscal Year 1973. Assuming that the funding level for 1973 would remain approximately the same as for Fiscal Year 1972, a number of activities, along with an estimated budget, were outlined under each priority area and presented to the State Board of Vocational Education and Rehabilitation for their consideration. The priorities approved for the Research and Development Unit by the State Board for Fiscal Year 1973 are outlined on pages 68 to 71. Immediately following the outline of priorities is a listing of the "Request for Proposals" issued to business and educational agencies.

RESULTS OF THE 1973 PRIORITIES SURVEY FOR
RESEARCH, DEVELOPMENTAL, AND EXEMPLARY ACTIVITIES

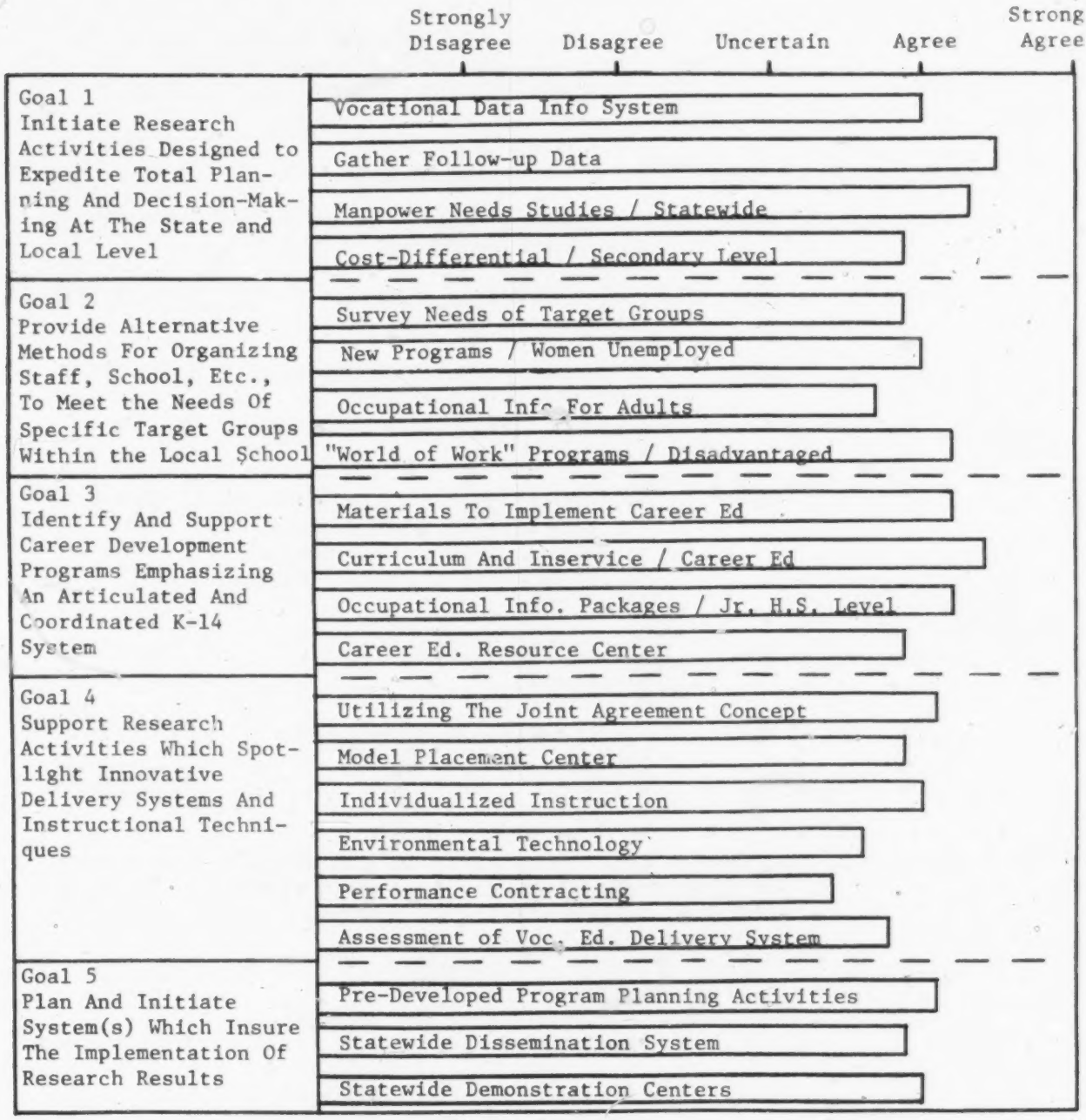
Strongly Disagree
Disagree
Uncertain
Agree
Strongly Agree
Goal 1
Initiate Research Activities Designed to Expedite Total Planning And Decision-Making At The State and Local Level
Vocational Data Info System
Gather Follow-up Data
Manpower Needs Studies / Statewide
Cost-Differential / Secondary Level
Goal 2
Provide Alternative Methods For Organizing Staff, School, Etc., To Meet the Needs Of Specific Target Groups Within the Local School
Survey Needs of Target Groups
New Programs / Women Unemployed
Occupational Info For Adults
"World of Work" Programs / Disadvantaged
Goal 3
Identify And Support Career Development Programs Emphasizing An Articulated And Coordinated K-14 System
Materials To Implement Career Ed
Curriculum And Inservice / Career Ed
Occupational Info. Packages / Jr. H.S. Level
Career Ed. Resource Center
Goal 4
Support Research Activities Which Spotlight Innovative Delivery Systems And Instructional Techniques
Utilizing The Joint Agreement Concept
Model Placement Center
Individualized Instruction
Environmental Technology
Performance Contracting
Assessment of Voc. Ed. Delivery System
Goal 5
Plan And Initiate System(s) Which Insure The Implementation Of Research Results
Pre-Developed Program Planning Activities
Statewide Dissemination System
Statewide Demonstration Centers

Figure 4

Mean Response For Each Priority Under Each Goal For The Total Group Sample

RESEARCH AND DEVELOPMENT ACTIVITIES, PART C

Priority 1: SUPPORT ACTIVITIES WHICH PROVIDE FOR THE PLANNING, DEVELOPMENT, TESTING, AND IMPLEMENTATION OF SOUND CAREER EDUCATION CONCEPTS AND MATERIALS IN THE LOCAL SCHOOLS OF ILLINOIS

Activity	Status	Description	Estimated Budget
1	New	The Development of a Career Education Model for Grades 7-10	$100,000.00
2	New	Career Education Resource Laboratory	45,000.00
3	New	Production of Multiple Copies of a 15-30 Minute Film Based on Illinois Developments in Career Education	25,000.00
4	New	To Review, Synthesize and Annotate the Body of Literature Written Since March 1970 in the areas of Career Development, and/or Career Education	10,000.00
5	New	Illinois Network for School Development	50,000.00
6	New	Career Education Project for East St. Louis	45,000.00
			$275,000.00

Priority 2: SUPPORT OF PILOT PROGRAMS IN NEW AND EMERGING TECHNOLOGIES AND DEVELOPMENT OF NEW AND INNOVATIVE METHODS OF UPGRADING VOCATIONAL EDUCATION DELIVERY SYSTEMS

Activity	Status	Description	Estimated Budget
1	Continuing	Continuation of the "Nuclear Radiation Project Study	$ 40,000.00
2	New	Determine the Feasibility of Implementing Joint Agreements for More Efficient Utilization of Secondary Area Center, and Post Secondary Resources and Facilities	60,000.00

Activity	Status	Description	Estimated Budget
3	New	Support for New Occupational Programs in Vocational Education	$60,000.00
4	New	Ecology and Environmental Control	30,000.00
			$190,000.00

Priority 3: SUPPORT OF RESEARCH ACTIVITIES DESIGNED TO PROVIDE LOCAL AND STATE PROGRAM PLANNERS WITH INFORMATION NECESSARY FOR REASONABLE DECISION-MAKING

Activity	Status	Description	Estimated Budget
1	New	Counselor Support System (Tech. & Ed.)	$75,000.00
2	New	Analyze Current Manpower Labor Market Information for Illinois	50,000.00
3	New	Vocational Education Development in Southern Illinois	40,000.00
4	New	Statewide Assessment: Disadvantaged	37,000.00
5	New	Statewide Assessment: Handicapped	38,000.00
6	New	A Statewide Survey of Adult Vocational Education Programs and Services	25,000.00
			$265,000.00

EXEMPLARY ACTIVITIES, PART D

Priority 1: DEVELOPMENT AND CONTINUATION OF INNOVATIVE EXEMPLARY PROGRAMS

Activity	Status	Description	Estimated Budget
1	Continuing	Continuation of "A Program to Train Licensed Practical Nurses to be Registered Nurses"	$70,000.00
2	Continuing	An Exemplary Program in Industrial Engineering Technology	60,000.00
3	Continuing	Continuation of an Aviation Mechanics Program, Cahokia, Illinois	15,000.00
4	Continuing	Continuation of the Air Frame-Air Power Mechanics Program, East St. Louis, Illinois	15,000.00
5	New	Pilot Demonstration Centers	50,000.00
			$210,000.00

CONSUMER AND HOMEMAKING ACTIVITIES, PART F

Priority 1: PART F LINE ITEM FUNDS ARE PROVIDED FOR RESEARCH ACTIVITIES AND WILL BE ADMINISTERED BY THE RESEARCH AND DEVELOPMENT UNIT.

Activity	Status	Description	Estimated Budget
1	New	Consumer and Homemaking: Demonstration Center and Pilot Programs	$60,000.00

COOPERATIVE ACTIVITIES, PART G

Priority 1: PART G LINE ITEM FUNDS ARE PROVIDED FOR RESEARCH ACTIVITIES AND WILL BE ADMINISTERED BY THE RESEARCH AND DEVELOPMENT UNIT

Activity	Status	Description	Estimated Budget
1	New	Cooperative Education School Leaver Program: Demonstration Centers	$30,000.00

During Fiscal Year 1973 the Research and Development Unit will fund all new contracts via a Request for Proposal (RFP) procedure. Sixteen RFP's were written to provide details and specifications for selected research, development, and exemplary activities. These RFP's were then distributed in the form of a booklet throughout the State of Illinois. Business and educational agencies receiving these booklets were encouraged to review the contents carefully, determine the application and implications for their agency, company, or institution, and submit proposals in reply to the request in so far as they possessed the expertise to carry out the desired task. The sixteen RFP's issued were:

RFP Title

1. The Development of a Career Education Model for Grades 7-10
2. Career Education Resources Laboratory
3. To Produce Multiple Copies of a 15-30 Minute 16mm. Sound Film Based on Illinois Development in Career Education
4. To Review, Synthesize, and Annotate the Body of Literature Written Since March 1970 in the Areas of Career Development and/or Career Education
5. Counselor Support System (Technology and Education)

6. Analyze Current Manpower Labor Market Information for Illinois

7. State-Wide Assessment: Programs for the Disadvantaged (Secondary and Post-Secondary Levels)

8. State-Wide Assessment: Programs for the Handicapped (Secondary and Post-Secondary Levels)

9. A State-Wide Survey of Adult Vocational Education Programs and Services (Secondary and Post-Secondary Levels)

10. Pilot Programs in New and Emerging Technologies

11. Analysis of Ecology and Environmental Control Programs at the Secondary and Post-Secondary Levels

12. Determine the Feasibility of Implementing Joint Agreements for more Efficient Utilization of Secondary Resources and Facilities

13. Pilot Demonstration Centers

14. Three (3) Pilot Programs for Consumer and Homemaking Education at the Post-Secondary Level

15. Three (3) Demonstration Centers for Cooperative Education School Leaver Program

16. A Planning Grant to Develop and Test a Systematic Approach for Implementation of a State-Wide, Student-Based, Management Information System

STAFF OF THE RESEARCH AND DEVELOPMENT UNIT

Fiscal Year 1972 marked a number of staff changes within the Research and Development Unit. Robert K. Gray resigned as coordinator of the Unit to accept the position of Director of Research for the Illinois Advisory Council on Vocational Education. Dr. Ronald McCage was promoted to coordinator to fill the vacancy created by the resignation of Mr. Gray. Leroy A. Jordan accepted the position of Assistant Director of Applied Studies at Sangamon State University and his vacancy was filled by Garth B. Yeager.

Robert K. Gray served as Coordinator of the Research and Development Unit, Division of Vocational and Technical Education, until May, 1972. Prior to joining the Unit, he was an instructor at Proviso West High School in Hillside, Illinois. Mr. Gray earned two degrees from Southern Illinois University and has additional graduate work at the Ohio State University. He served as a member of the Writing Committee for the 1970 State Plan and as Chairman of the 1971 State Plan Committee. Mr. Gray was editor of two Unit publications entitled, "Innovations in Illinois: A Successful Local, State and Federal Partnership in Vocational Education," and "Research, Developmental and Exemplary Activities in Vocational and Technical Education, June 1971." He served as editor of the BEACON, the newsletter of AVERA (American Vocational Education Research Association) and is immediate past president of the Springfield Jaycees.

Ronald D. McCage was appointed Coordinator of the Research and Development Unit on May 1, 1972. He initially joined the Research and Development Unit staff in September of 1970 as Assistant Coordinator. He holds

a B.S. from Murray State University, a M.S. from Southern Illinois University, and a D.Ed. from Texas A&M University. Dr. McCage taught two years at Calloway County High School, served as a vocational coordinator at the Cairo Adult Center, and taught Engineering Design Graphics for two years at Texas A&M. Dr. McCage is a Captain in the Army Reserve, and is a member of Phi Delta Kappa, Iota Lambda Sigma, Epsilon Pi Tau, American Vocational Association, Reserve Officer's Association, Sigma Chi Social Fraternity and the Springfield Jaycees. Dr. McCage was a member of the Writing Committee for the FY72 and FY73 State Plan. He is a co-editor of the Unit publication entitled "Research, Developmental and Exemplary Activities in Vocational and Technical Education, June 1971." He is on the editorial staff for the BEACON, the newsletter for AVERA. He serves as a member of the National Advisory for the federally funded ETC project at Eastern Illinois University. He is also a member of the Manpower Planning Board of Illinois and serves as Chairman of the Occupational Forecasting Committee.

In September, 1970, John S. Washburn joined the Research and Development Unit as a Consultant. He completed his B.S. and M.S. degrees at Southern Illinois University in Technical and Industrial Education with a minor at the master's level in Guidance and Special Education. He was formerly an instructor of welding and sheet metal technology at Southern Illinois University. Mr. Washburn has had experience as an intern in an institution for the retarded. He is a member of Phi Delta Kappa, the Springfield Jaycees, the Illinois Vocational Association, the American Industrial Arts Association, and is Past Vice-President

of Psi Chapter of Iota Lambda Sigma. Mr. Washburn is a co-editor of the Unit publication entitled,"Research, Developmental and Exemplary Activities in Vocational and Technical Education, June 1971." He is also a member of the editorial staff for the BEACON, the newsletter for AVERA. During the past year Mr. Washburn helped prepare a DVTE publication entitled "Administrative Guidelines for Securing Assistance in the Dissemination of Project Materials Arising from Contractual Agreements" and the DVTE working definition of "Career Education." Mr. Washburn has during the last year had responsibility for program development in the career education area, made numerous presentations to state staff, local teachers, school administrators and school boards regarding career education. Mr. Washburn has assisted school districts in preparing proposals for Federal grant programs. He has recently been appointed as a member of the 1973-74 State Plan Writing Committee and serves as DVTE liaison with the Illinois Network for School Development.

Garth B. Yeager joined the Research and Development Unit as a Consultant in August, 1972. He holds a B.S. from East Texas State University, an M.Ed. from Texas A&M University, and has completed extensive work at Texas A&M toward a D.Ed. in Industrial Education and Statistics. Mr. Yeager has served as a public school teacher, a graduate assistant in the metals area at Texas A&M, and as an instructor in the Department of Industrial Education at the University of Maryland. He has also worked in industry as a machinist and supervisor. He is a member of Iota Lambda Sigma, American Vocational Association, and American Industrial

Arts Association. Mr. Yeager served on a number of committees prior to joining the Illinois Research and Development Unit including the Adjunct Committee for Research and the Council for Educational Research and Field Services at the University of Maryland, the Industrial Education Advisory Committee at Texas A&M, Secretary of Iota Lambda Sigma, Chi Chapter, and was a Graduate College Fellowship recipient in 1970. He is on the editorial staff for the BEACON, the newsletter for AVERA.

APPENDIX A

ABSTRACTS OF RESEARCH & DEVELOPMENT, DISCRETIONARY AND EXEMPLARY PROJECTS FOR FISCAL YEAR 1972

ABSTRACTS OF RESEARCH & DEVELOPMENT, DISCRETIONARY,
AND EXEMPLARY PROJECTS FOR FISCAL YEAR 1972

RDC-C2-002	A Research and Development Project in Occupational Education: The Development of Process Models for Decision Making in Curriculum Development and Evaluation
RDC-C2-003	Facilitating Career Development at the Elementary School Level
RDC-B2-011	Project A.B.L.E. (Authentic Basic Life-Centered Education)
RDD-B2-018	Air Frame-Power Mechanics Program
RDD-C2-021	The Preparedness Program
RDD-B2-024	Aviation Mechanics Program
RDB-B2-026	Technical Physics
RDC-A1-043-2	A Research and Development Project in Occupational Education: The Development of Process Models for Decision Making in Curriculum Development and Evaluation
RDD-A2-048	Computerized Vocational Information System (CVIS) Demonstration Center
RDD-A2-049	Industrial Engineering Technology Based on Integrated Measurably Stated Behavioral Objectives
RDC-A1-053	A Follow-up Study of Illinois Home Economics Job Training Programs
RDC-A2-056	Nuclear Radiation Project Study - Phase I
RDC-A3-056	Nuclear Radiation Project Study - Phase II
RDC-A2-061	Implementation of Statewide On-Site Evaluation System
RDD-A2-062	Demonstration Center for a Comprehensive Vocational Home Economics Program
RDD-A2-066	Complete Model Horticultural Demonstration Package for Illinois High Schools

RDD-A2-067	Improvement of Horticultural Alternatives Package for Schools with Existing Facilities
RDD-A2-069	Demonstration Center Alternatives for Occupational Education in Illinois
RDD-A2-070	System for Individualized Vocational Education (SIVE) Demonstration Center
RDD-A2-073	Horticultural Instructional Packages: Demonstration Center Alternatives for Occupational Education in Illinois
RDD-A2-074	LPN-RN Program
RDD-A2-075	Vocational Information Project
RDD-A2-076	Demonstration Center: Elementary Career Education Program
RDC-A2-078	Review and Assessment of the Change and Impact on Occupational Education Resulting from Research and Development Activities Supported by the Division of Vocational and Technical Education of Illinois
RDC-A2-079	Development of a Systematic Approach to Follow-up Evaluation
RDC-A2-081	Cost Differential Analysis in Regular Secondary Vocational Programs and Area Vocational Centers in Illinois
RDC-A2-083	The World of Work as an Organizing Center for the Curriculum of the Elementary School
RDC-A2-084	The Career Development for Children Project
RDC-A2-085	Career Education 9-12
RDC-A2-087	Third Party Evaluation of Career Education Project

RDC-C2-002

ABSTRACT FOR CONTRACTUAL AGREEMENT
WITH THE DIVISION OF VOCATIONAL AND TECHNICAL EDUCATION

TITLE: A Research and Development Project in Occupational Education: The Development of Process Models for Decision Making in Curriculum Development and Evaluation
PRINCIPAL INVESTIGATOR (S): Joseph Borgen and Dwight Davis
INSTITUTION: Joliet Junior College
LOCATION: Joliet, Illinois
REQUIRED BUDGET: Local $11,956.00 DVTE $51,048.00 Total $63,004.00

OBJECTIVES OF PROJECT:
The objectives of this project were:

1. To develop systems models for curriculum development and evaluation in occupational education.
2. To develop guidelines for the utilization and application of the systems models.
3. To conduct a series of workshop sessions for the orientation of curriculum planners to the utilization of the systems models.
4. To promote research on related problems.

PROCEDURES OF IMPLEMENTATION:

1. A literature review and personal interviews were conducted in order to develop systems models in the following areas of curriculum development and evaluation:
   a) Program Identification
   b) Program Development
   c) Program Implementation
   d) Program Evaluation
2. Guidelines were developed for the application and utilization of the models with particular attention to the resources and evaluative criteria affecting each activity of the model.
3. Orientation and training sessions were conducted for administrators from junior colleges and secondary schools on the utilization of the guidelines for curriculum development and evaluation.
4. The guidelines for curriculum development and evaluation were field tested in selected Illinois secondary schools and junior colleges.
5. A plan was prepared for the long range implementation and evaluation of the systems model as well as the guidelines for curriculum development and evaluation.

CONTRIBUTION TO VOCATIONAL AND TECHNICAL EDUCATION

This project provided process models for curriculum development in occupational education. Guidelines developed for the utilization and application of the process models proved to be very beneficial and highly desirable during workshop sessions held to orient curriculum planners. The results of this project has greatly aided and influenced state and local curriculum planners.

RDC-C2-003

ABSTRACT FOR CONTRACTUAL AGREEMENT
WITH THE DIVISION OF VOCATIONAL AND TECHNICAL EDUCATION

TITLE: Facilitating Career Development at the Elementary School Level

PRINCIPAL INVESTIGATOR (S): Ronald Stadt

INSTITUTION: Southern Illinois University

LOCATION: Carbondale, Illinois

REQUIRED BUDGET: Local $24,176.00 DVTE $32,495.00 Total $56,671.00

OBJECTIVES OF PROJECT:

The primary objectives of the study were to:

1. Provide teacher educators and classroom teachers with a career development model relating age, vocational developmental stages, vocational development tasks, educational objectives, and behaviorally oriented occupational content in a definite way
2. Develop curriculum guides and supporting instructional materials
3. Develop systematic programs for the preparation of teacher educators, classroom teachers, and guidance personnel

PROCEDURES OF IMPLEMENTATION:

1. Preliminary forms of the Teacher's Guides and supporting instructional materials were completed for levels I, II, III, VII.
2. Primary activities for levels IV, V, VI were started. Materials were utilized in field test centers during FY 1972.
3. In-service and pre-service education was conducted. Conducting in-service workshops for teachers, counselors, and administrators was found to be very successful way of introducing the career development approach. Materials designed to educate teachers to their role in the career development process was disseminated.

CONTRIBUTION TO VOCATIONAL & TECHNICAL EDUCATION:

The project enabled students to gain adequate knowledge about themselves and the World of Work, and adequate experience in relating the two in order to make more intelligent career related decisions. The immediate goal for the project, at approximately the grade eight level, was to have students formulate a tentative occupational preference which would aid them in making decisions about their choice of high school curriculum.

RDC-B2-011

ABSTRACT FOR CONTRACTUAL AGREEMENT
WITH THE DIVISION OF VOCATIONAL AND TECHNICAL EDUCATION

TITLE: Project A.B.L.E. (Authentic Basic Life-Centered Education)
PRINCIPAL INVESTIGATOR (S): Walter Wernick
INSTITUTION: Northern Illinois University
LOCATION: DeKalb, Illinois
Required Budget: Local $111,608.00 DVTE $92,855.00 Total $204,463.00

OBJECTIVES OF PROJECT:

The objectives of this project were:

1. To develop a model program for the elementary school.
2. To develop materials necessary for the implementation of the model.
3. To test parts of the model in authentic clinical settings.
4. To plan with selected school systems as they diagnose their utilization of resources and talent for instructional purposes.
5. To portray the instructional alternatives available to teachers and/or administrators in visible behavioral forms.
6. To produce materials and consultant talent for use in teacher education and in-service education programs.
7. To influence professionals in elementary education so that a healthy self-image of the child can be vigorously developed through direct and frequent study of the "World of Work."

PROCEDURES OF IMPLEMENTATION:

1. Past, existing and planned programs were studied to generate ideas to focus on during the development of a model.
2. A feedback loop was established with participating public school and university faculties.
3. Strategic points of entry were diagnosed in order to begin building "visible" instructional programs.
4. Materials and services were acquired to augment the data collection and feedback programs.
5. Displays, brochures, slide programs and films utilizing the resources of the university and the talents of the participating teachers were produced and assembled.
6. Teachers were provided with methods of pedagogical self-renewal and workshops were arranged for individuals with diverse views to discuss the World of Work and an organizing center for the curriculum of the elementary school.

CONTRIBUTION TO VOCATIONAL & TECHNICAL EDUCATION:

The focus was upon creating a theory of practice whereby teachers began with significant content drawn from life activities. With such relevant content, teachers were aided in managing instructional support systems. These, in-turn related people oriented work activities with needed skills, facts, and attitudes.

RDD-B2-018

ABSTRACT FOR CONTRACTUAL AGREEMENT
WITH THE DIVISION OF VOCATIONAL AND TECHNICAL EDUCATION

TITLE: Air Frame-Power Mechanics Program

PRINCIPAL INVESTIGATOR (S): Edward Wirth
INSTITUTION: Cahokia School District #187 and Parks College
LOCATION: East St. Louis, Illinois

REQUIRED BUDGET: Local $28,801.00 DVTE $30,750.00 Total $59,551.00

OBJECTIVES OF PROJECT:

The main objectives and purposes of the program were to:

1. Enhance future employment opportunities for young men interested in the aerospace industry
2. Motivate young boys to remain in school and prepare themselves for the adult work world
3. Serve as a motivational factor for underachievers
4. Provide the necessary background for continued education at Parks Aeronautical College

PROCEDURES OF IMPLEMENTATION:

Each student enrolled in this program received a minimum of 720 hours of classroom instruction in the area of air frame and air power mechanics study. The mode of instruction consisted of lectures, demonstrations, and laboratory activities. "Hands on" practical lab activities were of main consideration in this particular program.

CONTRIBUTION TO VOCATIONAL & TECHNICAL EDUCATION:

Provided an innovative type of vocational educational program in the areas of air frame and air power mechanics.

Served as an outstanding example of a community agency (university) and school cooperative project. Cooperative ventures were promoted by this project.

The importance of this new vocational educational opportunity was reinforced by the great need to motivation of the student body to remain in school and prepare themselves for the adult work world.

Reinforced and furthered the need for working toward developing relevant vocational school experiences for high school students.

Provided a unique vocational educational opportunity.

RDD-C2-021

ABSTRACT FOR CONTRACTUAL AGREEMENT
WITH THE DIVISION OF VOCATIONAL AND TECHNICAL EDUCATION

TITLE: The Preparedness Program
PRINCIPAL INVESTIGATOR (S): Troy Simpson
INSTITUTION: Parkland Junior College
LOCATION: 2 Main Street Champaign, Illinois
REQUIRED BUDGET: Local $40,943.00 DVTE $37,643.00 Total $78,586.00

OBJECTIVES OF PROJECT: The Preparedness Program attempted to provide the socio-economic and academically disadvantaged student an opportunity to attend college and engage himself in a program that would enable him to acquire basic skills competence in the areas of reading, writing, computations, studying and self-assurance.

The program was intended to be more concerned with the learner than with content. Its central goal was individual development in its various aspects and it placed emphasis upon behavioral and social usefulness as well as upon intellectual development as an outcome of learning.

The ultimate goal of the Preparedness Program was to enable the disadvantaged student to prepare himself to succeed in the social as well as academic world.

PROCEDURES OF IMPLEMENTATION:
Implementation of the Preparedness Program involved several component parts. The primary components of the program were:

1. Student Identification and Selection
    a. Admissions Committee
    b. Counselor Assignments
2. Curriculum Instruction
3. Group Counseling
4. Counseling
    a. Personal
    b. Vocational

CONTRIBUTION TO VOCATIONAL & TECHNICAL EDUCATION: The "Preparedness Program" was a special program designed to provide "developmental" education to the socially, economically, and academically disadvantaged students of Junior College District #505. It was further designed to help the student in this category explore vocational and technical education opportunities as a result of continuing their education. A major outcome for students in this program was increased self-awareness, self-appreciation and understanding, and identify formation.

The primary goal of the program was to help "disadvantaged" and "underutilized" students prepare themselves for eventual full participation in regular college career and/or transfer programs with the maximum reassurance of experiencing success.

RDD-B2-024

ABSTRACT FOR CONTRACTUAL AGREEMENT
WITH THE DIVISION OF VOCATIONAL AND TECHNICAL EDUCATION

TITLE: Aviation Mechanics Program
PRINCIPAL INVESTIGATOR (S): Edward Blue
INSTITUTION: East St. Louis District #189 and Belleville Junior College
LOCATION: East St. Louis, Illinois
REQUIRED BUDGET: Local $750.00 DVTE $24,030.00 Total $24,780.00

OBJECTIVES OF PROJECT:
The objectives of this project were:

1. To introduce an aerospace studies program into the high school vocational curriculum
2. To expose as many students as possible, particularly the disadvantaged students, to a possible area of work
3. To offer to the interested student a preparation for advanced study in an area of aerospace technology
4. To present an aerospace studies program that appealed to underachieving students

PROCEDURES OF IMPLEMENTATION:
The conventional classroom was used with the exception that several field trips were made to local airports during the flight laboratory sessions. As the various topics such as aerodynomics, meteorology, space science, and navigation were covered, possible career opportunities in these respective areas were discussed.

CONTRIBUTION TO VOCATIONAL & TECHNICAL EDUCATION:
Provided an innovative type of vocational educational program in the areas of air frame and air power mechanics.

Served as an outstanding example of a community agency (university) and school cooperative project. Cooperative ventures of a large university, junior college and local school systems in highly innovative educational programs were promoted by this project.

The importance of this new vocational educational opportunity was reinforced by the great need for motivating the study body to remain in school and prepare themselves for the adult work world.

Reinforced and furthered the need for working toward developing relevant vocational school experiences for high school students.

Provided a unique vocational educational opportunity.

RDB-B2-026

ABSTRACT FOR CONTRACTUAL AGREEMENT
WITH THE DIVISION OF VOCATIONAL AND TECHNICAL EDUCATION

TITLE: Technical Physics
PRINCIPAL INVESTIGATOR (S): Dale Ewen and Ronald Nelson
INSTITUTION: Parkland College
LOCATION: Champaign, Illinois
REQUIRED BUDGET: Local $4,862.00 DVTE $16,017.00 Total $20,879.00

OBJECTIVES OF PROJECT:
The objectives of this project were to:

1. Develop a meaningful physics program for students who did not aspire to a four-year college education.
2. Provide the necessary skills and content in the physical sciences which students need for success in vocational and technical programs.
3. Provide the essential additional mathematics skills necessary for a student to study specific physical science content.
4. Improve the motivation of those students preparing to enter vocational or technical programs or immediate employment.

PROCEDURES OF IMPLEMENTATION:
The materials were used the first year in Rantoul Township High School, St. Joseph-Ogden High School and Villa Grove High School, Parkland College, and Kankakee College. After revision during summer of 1971, the materials were used in ten high schools and five community colleges. Each of the schools enrolled enough students for at least one class.

Nine monthly workshops were held with the in-district teachers to discuss and evaluate materials, to share experiences via discussion and video taping actual classes, and to discuss technical programs and problems in general.

CONTRIBUTION TO VOCATIONAL & TECHNICAL EDUCATION
Parkland College in cooperation with area high schools developed the Technical Physics Program for vocational and technical bound students. Students were provided with the necessary skills and content in the physical sciences to insure success in vocational and technical programs. Thus the program more appropriately prepared students to enter post-secondary vocational and technical programs.

RDC-A1-043-2

ABSTRACT FOR CONTRACTUAL AGREEMENT
WITH THE DIVISION OF VOCATIONAL AND TECHNICAL EDUCATION

TITLE: The Development of a Systems Model(s) for the Collection, Processing, Summarization and Comparison of Course Cost, Enrollment and Reimbursement Data at the Community College

PRINCIPAL INVESTIGATOR (S): Robert Tomlinson and Chester Rzonca
INSTITUTION: University of Illinois
LOCATION: Champaign, Illinois

REQUIRED BUDGET: Local -0- DVTE $5,272.00 Total $5,272.00

OBJECTIVES OF PROJECT:

This study identified and compared the operational cost for transfer and occupational disciplines on a student credit hour basis. It also identified course cost and per student costs for occupational disciplines. A cost per graduate was determined within the designed interval of the program and on the basis of current graduates. The study also provided a comparison of reimbursements from the Division of Vocational and Technical Education and the Junior College Board with the amounts determined by the study as being necessary for various occupational offerings.

PROCEDURES OF IMPLEMENTATION:

The systems model was evaluated by:

1. The Division of Vocational and Technical Education in terms of their need for the generated data

2. State agencies in terms of (1) usability of the data, (2) efficient collection procedures, and (3) compatability in comparison with other systems

3. Local administrators in terms of (1) a data base for use in decision making and (2) their ability to provide the necessary data for the systems model(s)

CONTRIBUTION TO VOCATIONAL & TECHNICAL EDUCATION:

Cost analysis studies usually compare the costs of educating students in the Transfer, Occupational and Adult Education Curricula without regard to the nature of instruction or the designed interval of enrollment appropriate to the various programs. While the identification and comparison of occupational and transfer discipline costs is of great importance, this study provided the cost per student within the designed interval of enrollment for occupational programs, and the amount of reimbursement provided by both the Division of Vocational and Technical Education and the Junior College Board as compared to the actual operating costs necessary for the offerings of occupational courses.

RDD-A2-048

ABSTRACT FOR CONTRACTUAL AGREEMENT
WITH THE DIVISION OF VOCATIONAL AND TECHNICAL EDUCATION

TITLE: Computerized Vocational Information System (CVIS) Demonstration Center

PRINCIPAL INVESTIGATOR(S): Lorraine Foster

INSTITUTION: District 88, Willowbrook High School

LOCATION: Villa Park, Illinois

REQUIRED BUDGET: Local $20,703.00 DVTE $111,891.00 Total $132,594.00

OBJECTIVES OF PROJECT:

The objectives of this project were:

1. To disseminate information about CVIS, conduct workshops, and assist in the implementation of the project in schools nationwide.
2. To implement a plan by which CVIS could continue in DuPage County and become self-supporting.
3. To design and carry out additional new developments, including self-exploration and job simulation.

PROCEDURES OF IMPLEMENTATION:

1. Maintaining Willowbrook as a demonstration center with an increased number of workshops, demonstrations, publications, and film showings; distributing computer tapes and documentation to all educational non-profit users who request them.
2. Providing some support personnel at the computer center to assist present and future CVIS users in DuPage County.
3. Allotting sufficient time to creative staff members so that new development could be carried out.

CONTRIBUTION TO VOCATIONAL & TECHNICAL EDUCATION:

1. Project CVIS had as its primary objectives the development of a highly sophisticated, computer-based system which assisted students to explore occupations, alternative paths of training for these occupations, and self in relationship to occupation. This type of exploratory behavior was a critical prelude to selecting areas of Vocational-Technical study and added purposefulness to such study.

2. At this time the work has potential for nation-wide influence on vocational guidance practices and may provide a framework and a technology for great improvement in vocational guidance services.

RDD-A2-049

ABSTRACT FOR CONTRACTUAL AGREEMENT
WITH THE DIVISION OF VOCATIONAL AND TECHNICAL EDUCATION

TITLE: Industrial Engineering Technology Based on Integrated Measurably Stated Behavioral Objectives

PRINCIPAL INVESTIGATOR (S): Robert M. Van Raes
INSTITUTION: Moraine Valley Community College
LOCATION: Palos Hills, Illinois 60465

REQUIRED BUDGET: Local $22,350.00 DVTE $37,730.00 Total $60,080.00

OBJECTIVES OF PROJECT:

The program of Industrial Engineering Technology was designed to prepare the student to enter industry as a technologist with an Associate in Applied Science degree. The project allowed the student to proceed at his own rate based on pre-determined objectives rather than a structured course or semester basis. The overall objectives of the project were:

1. Increase accuracy of the educational program in terms of the student's needs relative to occupational specifications.
2. Provide the student with the means for more rational choices based on a clearer understanding of program.
3. Make the time factor of the program flexible in terms of student's needs.
4. Make it truly possible for the student to progress at his own rate.
5. Facilitate the implementation of the "Goals Achievement Plan."
6. Make more practical the utilization of educational technology developments, i.e., Programmed Instruction, Videotaped and Filmed Instruction, Audiotutorial, C.A.I., etc.
7. Make possible more complete utilization of college facilities.

PROCEDURES OF IMPLEMENTATION:

1. The project staff derived occupational specifications and program objectives for Industrial Engineering Technology. The advisory committee and project staff determined educational measurable objectives and integrated these objectives into the Industrial Engineering Technology program.
2. The project staff developed educational materials centered on the measurably stated behavioral objectives.
3. The advisory committee and project staff developed the mechanics for implementing a computer program for continuous registration and student records.

CONTRIBUTION TO VOCATIONAL & TECHNICAL EDUCATION:

Utilizing already developed theories of education and already existing technical hardware, this project developed a format, methods, and materials to not only increase the accuracy of technical education programs but to facilitate transition from the academic setting to the occupational setting. The project resulted in a technical education program model in accountability, method-media mix, measurable behavioral objectives, unitized instruction leading to greater individualization of instruction, and more efficient utilization of facilities and equipment.

RDC-A1-053

ABSTRACT FOR CONTRACTUAL AGREEMENT
WITH THE DIVISION OF VOCATIONAL AND TECHNICAL EDUCATION

TITLE: A Follow-up Study of Illinois Home Economics Job Training Programs

PRINICPAL INVESTIGATOR (S): Dr. Kathleen Howell

INSTITUTION: Eastern Illinois University

LOCATION: Charleston, Illinois

REQUIRED BUDGET: Local $1,832.00 DVTE $3,717.00 Total $5,549.00

OBJECTIVES OF PROJECT: The objective of this project was to determine the effectiveness of 1968-69 and 1969-70 high school Home Economics Cooperative Education Programs on graduates as indicated by the graduates themselves and their post-high school employers.

PROCEDURES OF IMPLEMENTATION: Specially designed instruments were used to survey a sample of graduates of high school cooperative education programs for the 1968-69 and 1969-70 school years, as well as employers identified by the respondents.

CONTRIBUTION TO VOCATIONAL & TECHNICAL EDUCATION:
This project provided needed data such as:

1. Contribution made by the training to vocational competencies and capabilities
2. Factors associated with non-employment
3. Proportion entering two-year post-high school programs
4. Factors associated with job satisfaction
5. Skills considered important for entry-level employment
6. Job adjustment problems of employed graduates

The findings were pertinent regarding future direction and emphasis for program development.

RDC-A1-056

ABSTRACT FOR CONTRACTUAL AGREEMENT
WITH THE DIVISION OF VOCATIONAL AND TECHNICAL EDUCATION

TITLE: Nuclear Radiation Project Study - Phase I
PRINCIPAL INVESTIGATOR (S): William Phelps and Arthur Baker
INSTITUTION: Community High School District #155
LOCATION: Crystal Lake, Illinois
REQUIRED BUDGET: Local $7,500.00 DVTE $20,718.00 Total $28,218.00

OBJECTIVE OF PROJECT:

The objectives of this project were to:

1. Survey present employment in the area of nuclear energy
2. Survey occupational outlook for next decade in nuclear energy
3. Develop curricular materials for grades 9-12
4. Test all materials possible

PROCEDURES OF IMPLEMENTATION:

A survey relevant to employment in the area of nuclear energy was conducted. Data gathering instruments consisted of questionnaires as well as personal interviews. The occupational outlook in the area of nuclear energy for the next decade was determined by consulting the ERIC files, reviewing pertinent research related to nuclear energy, and personally interviewing experts out in industry. Curriculum materials relevant to the results of the manpower survey were then written for grades 9-12.

CONTRIBUTION TO VOCATIONAL & TECHNICAL EDUCATION:

The program was designed to teach the "why" and the "how" of radiation. Effects, theory, methodology techniques, instrumentation and applications of radiation were included in the curriculum materials that were developed. The training provided by this program prepared graduates for technical careers such as radiographers, radiological physicists, radiation monitors, nuclear reactor operators, medical X-Ray technicians, dental hygienists, dental lab technicians, industrial inspectors, and nuclear medical technologists.

RDC-B3-056

ABSTRACT FOR CONTRACTUAL AGREEMENT
WITH THE DIVISION OF VOCATIONAL AND TECHNICAL EDUCATION

TITLE: Nuclear Radiation Project Study - Phase II
PRINCIPAL INVESTIGATOR (S): William Phelps and Arthur Baker
INSTITUTION: Community High School District #155
LOCATION: Crystal Lake, Illinois
REQUIRED BUDGET: Local $20,991.00 DVTE $38,812.00 Total $59,803.00

OBJECTIVES OF PROJECT:

The objectives of the project were to:

1. Develop a laboratory-oriented, one semester survey course in nuclear radiation
2. Train some students for employment as nuclear technicians
3. Motivate part of these students to go on to post-secondary nuclear technician schools
4. Make all students aware of peaceful uses of atomic energy while alleviating fear due to a lack of understanding
5. Serve as a nuclear demonstration center
6. Serve as a training center for teachers from other high schools

PROCEDURES OF IMPLEMENTATION:

A laboratory-oriented introductory one semester course in nuclear radiation for secondary students was developed. Attitude and knowledge changes were evaluated through the use of pre and post-tests developed by the researchers. The trial classes were taught to a heterogeneous group of 16 students per semester. Preference was given to seniors with an interest in vocational technology.

CONTRIBUTION TO VOCATIONAL & TECHNICAL EDUCATION:

The project developed and field tested a course that could be taught in all secondary schools in the United States. Students enrolled in this program were not only trained for employment as nuclear technicians upon graduation, but also given sufficient background to pursue post-secondary technician training if so desired. This program also alleviated students' fear of nuclear energy by demonstrating its many uses in peaceful situations.

RDC-A2-061

ABSTRACT FOR CONTRACTUAL AGREEMENT
WITH THE DIVISION OF VOCATIONAL AND TECHNICAL EDUCATION

TITLE: Implementation of Statewide On-Site Evaluation System
PRINCIPAL INVESTIGATOR (S): Tim L. Wentling
INSTITUTION: University of Illinois
LOCATION: Urbana, Illinois
REQUIRED BUDGET: Local -0- DVTE $23,398.00 Total $23,398.00

OBJECTIVES OF PROJECT:
Project objectives were developed to coincide with the present objectives for program evaluation established by the Division's Program Approval and Evaluation Unit. Specific emphasis was on the on-site evaluation phase of the Three Phase System for Statewide Evaluation of Occupational Education Programs. The primary objective was implementation of the evaluation system on a statewide basis. Subordinate project objectives were defined as tasks to be accomplished.

PROCEDURES OF IMPLEMENTATION:
The ten tasks identified for full scale implementation of the project were:

1. Develop orientation program and manual for team members
2. Field test and refine orientation program for school personnel
3. Develop handbook for self-evaluation of occupational education programs
4. Develop a brochure for team members
5. Field test and refine the handbook for self-evaluation of occupational education programs.
6. Coordinate pre-evaluation data processing
7. Mail data summaries and necessary orientation materials
8. Coordinate total visitation data processing
9. Develop a final report of vocational education in Illinois for FY 1972
10. Refine Three Phase System for Statewide Evaluation of Occupational Education Programs

CONTRIBUTION TO VOCATIONAL & TECHNICAL EDUCATION:
As a result of the recommendation by the National Advisory Council on Vocational Education, the legislature included a mandate in the Vocational Education Amendments of 1968 requiring states to evaluate vocational programs. The State of Illinois fulfilled this requirement through the design, development, and implementation of a statewide system for the evaluation of occupational education programs. The two major contributions made to vocational and technical education were (1) more effective local evaluation and planning and (2) more effective statewide planning and distribution of funds.

RDD-A2-062

ABSTRACT FOR CONTRACTUAL AGREEMENT
WITH THE DIVISION OF VOCATIONAL AND TECHNICAL EDUCATION

TITLE: Demonstration Center for a Comprehensive Vocational Home Economics Program

PRINCIPAL INVESTIGATOR (S): Iva B. Pidcock

INSTITUTION: Lyons Township High School

LOCATION: Western Springs, Illinois

REQUIRED BUDGET: Local $14,584.00 DVTE $16,679.00 Total $31,263.00

OBJECTIVES OF PROJECT:

The objectives of this project were:

1. To provide an opportunity for exchange of ideas among schools in an area where both gainful and useful home economics were taught.
2. To share resource materials, curriculum innovations and examples of community and students' vocational needs and aspirations.
3. To provide consultant service to administrators and teachers in planning and implementating a vocational home economics program.
4. To examine and discuss future plans for adapting to anticipated change.
5. To provide opportunity for employers, local citizens, students, staff and participants to evaluate the program and to offer suggestions.

PROCEDURES OF IMPLEMENTATION:

1. A series of drive-in conferences were held during the year. Groups were kept at 50 to 70 persons each time to enable guests to visit classes or work stations.
2. A complete resource center was established at each of the two campuses.
3. A brochure and invitation with a calendar of the conferences planned were mailed to schools in the area three weeks before the first drive-in conference.
4. Progressive evaluation and revision of the conferences were conducted during the year and a comprehensive evaluation of the project was preformed at the end of the year.

CONTRIBUTION TO VOCATIONAL & TECHNICAL EDUCATION:

The major contribution to vocational education was the dissemination of information relative to the vocational education act and funding of programs in home economics. The demonstration center served as a central resource for the suburban schools and for the state consultants to pass on information to administrators and home economics teachers. It also afforded an opportunity for the exchange of ideas. Employers and parents of many of these students were involved to facilitate a better understanding and communication between these groups.

RDD-A2-066

ABSTRACT FOR CONTRACTUAL AGREEMENT
WITH THE DIVISION OF VOCATIONAL AND TECHNICAL EDUCATION

TITLE: Complete Model Horticultural Demonstration Package for Illinois High Schools

PRINCIPAL INVESTIGATOR (S): Glenn W. Curl

INSTITUTION: Rochelle Township High School District #111

LOCATION: Rochelle, Illinois

REQUIRED BUDGET: Local $5,500.00 DVTE $7,790.00 Total $13,290.00

OBJECTIVES OF PROJECT: The objectives of this project were to utilize teacher/schools participants in the R&D/DVTE sponsored Commercial Horticultural Skills-Practice Institute. Alternative approaches to implement/maintain occupational education in horticulture were developed/tested in Demonstration Center Schools. Alternative approaches were developed through a series of Horticultural Instruction Packages fitted to differing school situations. Horticultural Instructional Packages, component parts and Demonstrations Center "results" were analyzed for cost-effectiveness and instructional-effectiveness. Additionally, slide and workbook outlines were completed for horticultural occupational instruction units in bedding plants, growing structures, pot crops, merchandising plant materials and community environmental projects.

PROCEDURES OF IMPLEMENTATION: It was suggested that seven school districts encompassing nine separate school environments be utilized as Demonstration Centers to test and evaluate alternative costing and instructional approaches. The development, coordination, and evaluation of Demonstration Center "horticultural instruction packages" was directed by the DuPage Horticultural School (DHS). The completion of slide and workbook outline (both in cooperation and with assistance from participating staff) was handled by DHS. In effect DHS was retained as a program consultant by each of the participating school districts.

CONTRIBUTION TO VOCATIONAL & TECHNICAL EDUCATION:
Contributions fell into two major areas:

1. Illinois developed/analyzed the "package" approach to implementing occupational education at the junior high school and high school levels in rural, transition and urban areas. The Demonstration Centers yielded hard cost-effectiveness documentation for a series of alternative approaches. Perhaps more important the Demonstration Centers provided maximum visability situations for disseminating horticultural occupational education in Illinois
2. Essential teaching units were developed in visual and test workbook outline form for use in Illinois schools

RDD-A2-067

ABSTRACT FOR CONTRACTUAL AGREEMENT
WITH THE DIVISION OF VOCATIONAL AND TECHNICAL EDUCATION

TITLE: Improvement of Horticultural Alternatives Package for Schools with Existing Facilities

PRINCIPAL INVESTIGATOR (S): Robert D. Marshall
INSTITUTION: Naperville Community High School District #107
LOCATION: Naperville, Illinois

REQUIRED BUDGET: Local $4,316.00 DVTE $5,255.00 Total $9,571.00

OBJECTIVES OF PROJECT: The objectives of this project were to utilize teacher/schools participants in the R&D/DVTE sponsored Commercial Horticultural Skills-Practice Institute. Alternative approaches to implement/maintain occupational education in horticulture were developed/tested in Demonstration Center Schools. Alternative approaches were developed through a series of Horticultural Instructions Packages fitted to differing school situations. Horticultural Instructional Packages, component parts and Demonstrations Center "results" were analyzed for cost-effectiveness and instructional-effectiveness. Additionally, slide and workbook outlines were completed for horticultural occupational instruction units in bedding plants, growing structured, pot crops, merchandising plant materials and community environmental projects.

PROCEDURES OF IMPLEMENTATION: It was suggested that seven school districts encompassing nine separate school environments be utilized as Demonstration Centers to test and evaluate alternative costing and instructional approaches. The development, coordination, and evaluation of Demonstration Center "horticultural instruction packages" was directed by the DuPage Horticultural School (DHS). The completion of slide and workbook outline (both in cooperation and with assistance from participating staff) was handled by DHS. In effect DHS was retained as a program consultant by each of the participating school districts.

CONTRIBUTION TO VOCATIONAL AND TECHNICAL EDUCATION:
Contributions fell into two major areas:

1. Illinois developed/analyzed the "package" approach to implementing occupational education at the junior high school and high school levels in rural, transition and urban areas. The Demonstration Centers yielded hard cost-effectiveness documentation for a series of alternative approaches. Perhaps more important the Demonstration Centers provided maximum visability situations for disseminating horticultural occupational education in Illinois.
2. Essential teaching units were developed in visual and text workbook outline form for use in Illinois schools.

RDD-A2-069

ABSTRACT FOR CONTRACTUAL AGREEMENT
WITH THE DIVISION OF VOCATIONAL AND TECHNICAL EDUCATION

TITLE: Demonstration Center Alternatives for Occupational Education in Illinois

PRINCIPAL INVESTIGATOR (S): William O. Jahn, Jr.

INSTITUTION: Skokie School District #73½

LOCATION: Skokie, Illinois

REQUIRED BUDGET: Local $2,600.00 DVTE $4,915.00 Total $7,515.00

OBJECTIVES OF PROJECT:
Objectives of this project were to utilize teacher/schools participants in the R&D/DVTE sponsored Commercial Horticultural Skills-Practice Institute. Alternative approaches to implement/maintain occupational education in horticulture were developed/tested in Demonstration Center Schools. Alternative apprcaches were developed through a series of Horticultural Instructional Packages, component parts and Demonstrations Center "results" were analyzed for cost-effectiveness and instructional-effectiveness. Additionally, slide and workbook outlines were completed for horticultural occupational instruction units in bedding plants, growing structures, pot crops, merchandising plant materials and community environmental projects.

PROCEDURES OF IMPLEMENTATION: It was suggested that seven school districts encompassing nine separate school environments be utilized as Demonstration Centers to test and evaluate alternative costing and instructional approaches. The development, coordination, and evaluation of Demonstration Center "horticultural instruction packages" was directed by the DuPage Horticultural School (DHS). The completion of slide and workbook outline (both in cooperation and with assistance from participating staff) was handled by DHS. In effect DHS was retained as a program consultant by each of the participating school districts.

CONTRIBUTION TO VOCATIONAL & TECHNICAL EDUCATION:
Contributions fell into two major areas:

1. Illinois developed/analyzed the "package" approach to implementing occupational education at the junior high school and high school levels in rural, transition and urban areas. The Demonstration Centers yielded hard cost-effectiveness documentation for a series of alternative approaches. Perhaps more important the Demonstration Centers provided maximum visability situations for disseminating horticultural occupational education in Illinois.
2. Essential teaching units were developed in visual and text workbook outline form for use in Illinois schools.

RDD-A2-070

ABSTRACT FOR CONTRACTUAL AGREEMENT
WITH THE DIVISION OF VOCATIONAL AND TECHNICAL EDUCATION

TITLE: System for Individualized Vocational Education (SIVE) Demonstration Center
PRINCIPAL INVESTIGATOR (S): John Bristol
INSTITUTION: Niles Township High Schools
LOCATION: Morton Grove, Illinois
REQUIRED BUDGET: Local $25,569.00 DVTE $17,395.00 Total $42,964.00

OBJECTIVES OF PROJECT: The primary purpose of SIVE was to develop a system to individualize instruction for students in vocationally oriented courses in the industrial arts, home economics, and business education departments as well as in the cooperative vocational education program. The purpose of this project was to provide workshops which demonstrated the system and how to use it within the various subject areas.

PROCEDURES OF IMPLEMENTATION:
Instructional units were developed to add to those already available to present a broad set of completed modules for participant review. Four workshops were presented using system consultants and teachers as presenters. Participants were able to describe and use the system after the one day session. The technique for using, and the equipment required for implementation was illustrated and described.

CONTRIBUTION TO VOCATIONAL & TECHNICAL EDUCATION:
The need to individualize instruction to meet the various learning rates and styles of students has long been recognized by educators as being a prime need in instruction. To meet this need, grouping has been used to create classes for students with similar learning rates, and class sizes have been reduced to allow more teacher help to students.

The SIVE system was developed to allow students to work individually at their own rate on various vocationally related subjects. Thus, the bridge between the simulation and job experiences was shortened and placed in control of the individual learner. The teachers prepared their own automated instructional units in areas of need and made them specifically relate to the instruction needed rather than purchasing prepared modules which did not directly deal with the subject.

By conducting these workshops, Niles High School was able to demonstrate and teach teachers how to use the system. Through the workshop technique, 120 teachers in the state familiarized themselves with the system. Instructional units were developed to add to those already available to present a broad set of completed modules for participant review.

RDD-A2-073

ABSTRACT FOR CONTRACTUAL AGREEMENT
WITH THE DIVISION OF VOCATIONAL AND TECHNICAL EDUCATION

TITLE: Horticultural Instructional Packages: Demonstration Center Alternatives for Occupational Education in Illinois
PRINCIPAL INVESTIGATOR (S): William Eagleton
INSTITUTION: Alton, Illinois
REQUIRED BUDGET: Local $9,442.00 DVTE $9,535.00 Total $18,977.00

OBJECTIVES OF PROJECT:
The objectives of this project were to utilize teacher/schools participants in the R&D/DVTE sponsored Commercial Horticultural Skills-Practice Institute. Alternative approaches to implement/maintain occupational education in horticulture were developed/tested in Demonstration Center Schools. Alternative approaches were developed through a series of Horticultural Instructions Packages fitted to differing school situations. Horticultural Instructional Packages, component parts and Demonstrations Center "results" were analyzed for cost-effectiveness and instructional-effectiveness. Additionally, slide and workbook outlines were completed for horticultural occupational instruction units in bedding plants, growing structures, pot crops, merchandising plant materials and community environmental projects.

PROCEDURES OF IMPLEMENTATION:
It was suggested that seven school districts encompassing nine separate school environments be utilized as Demonstration Centers to test and evaluate alternative costing and instructional approaches. The development, coordination, and evaluation of Demonstration Center "horticultural instruction packages" was directed by the DuPage Horticultural School (DHS). The completion of slide and workbook outline (both in cooperation and with assistance from participating staff) was handled by DHS. In effect DHS was retained as a program consultant by each of the participating school districts.

CONTRIBUTION TO VOCATIONAL & TECHNICAL EDUCATION:
Contributions fell into two major areas:

1. Illinois developed/analyzed the "package" approach to implementing occupational education at the junior high school and high school levels in rural, transition and urban areas. The Demonstration Centers yielded hard cost-effectiveness documentation for a series of alternative approaches. Perhaps more important the Demonstration Centers provided maximum visability situations for disseminating horticultural occupational education in Illinois.
2. Essential teaching units were developed in visual and text workbook outline form for use in Illinois schools.

RDD-A2-074

ABSTRACT FOR CONTRACTUAL AGREEMENT
WITH THE DIVISION OF VOCATIONAL AND TECHNICAL EDUCATION

TITLE: LPN - RN Program
PRINCIPAL INVESTIGATOR (S): Sally Holloway and Rose Greenberg
INSTITUTION: Olive-Harvey Junior College
LOCATION: Chicago, Illinois 60628
REQUIRED BUDGET: Local $19,957.00 DVTE $61,005.00 Total $80,962.00

OBJECTIVES OF PROJECT:

The objectives of this project were:

1. To serve the community and the "disadvantaged" members of the community, by providing educational opportunities and creating career mobility.
2. To fill the need for trained nurses. The hospitals on the Southside of Chicago increasingly draw their personnel from the surrounding community. The shortage of trained nurses has become acute in this area, which, at present, has only one school of nursing.
3. To fill the need of the individual for career mobility.
4. To research this as a pilot program with the objectives of developing a career ladder from LPN to RN on a state-wide basis.

PROCEDURES OF IMPLEMENTATION:

1. Students were drawn from the Licensed Practical Nurse Staff of the University of Chicago Hospitals and Clinics into a full time RN Program without loss of seniority or other benefits accrued over a period of time.
2. The Department of Education and Training of the University of Chicago Hospitals and Clinics provided the supportive services needed, such as counseling and other administrative procedures.
3. The curriculum plan was developed by Olive-Harvey College and accreditation given by them. LPN's got six hours credit for a prior educational experiences and skills. An LPN had the opportunity to test out of maternity and child care. This shortened program was designed to yield an ADN.

CONTRIBUTION TO VOCATIONAL & TECHNICAL EDUCATION:

The project was designed to meet a pressing challenge of manpower needs in the health field and more importantly to utilize trained manpower in an upward mobility career concept.

RDD-A2-075

ABSTRACT FOR CONTRACTUAL AGREEMENT
WITH THE DIVISION OF VOCATIONAL AND TECHNICAL EDUCATION

TITLE: Vocational Information Project
PRINCIPAL INVESTIGATOR (S): H. R. Fuller, Director of Services
INSTITUTION: Thornton Area Public School Assn. (TAPSA)
LOCATION: Harvey, Illinois 60426
REQUIRED BUDGET: Local $1,575.00 DVTE $13,756.00 Total $15,331.00

OBJECTIVES OF PROJECT:

The objectives of this project were:

1. To provide other educators in Illinois with information about:
   a. The importance and uses of career information in grades K-8.
   b. The use of local resources to provide career information.
   c. The local production of video tapes to provide career information.
2. To assist other educators in Illinois to establish career information programs including:
   a. Provision for grades K-8.
   b. The use of their local resources.
   c. Their local production of video tapes.

PROCEDURES OF IMPLEMENTATION:

1. Continued production of video tapes for demonstration in order to improve articulation with secondary schools and balance the vocational areas.
2. Developed a media presentation regarding this project.
3. Developed a brochure and other materials regarding this project and mailed them to all districts in the State.
4. Conducted a one-day workshop for educators from other districts.
5. TAPSA and TAPSA schools were opened to educators from other districts for on-site visitations.

CONTRIBUTION TO VOCATIONAL & TECHNICAL EDUCATION:

1. Proved that video taping local resources for career information could be handled economically and simply.
2. Demonstrated that video taping local resources for career information was an effective means of providing career information for elementary school education.
3. Suggested that video taped career information was a part of a curriculum plan and showed how it related to other aspects of the curriculum.

RDD-A2-076

ABSTRACT FOR CONTRACTUAL AGREEMENT
WITH THE DIVISION OF VOCATIONAL AND TECHNICAL EDUCATION

TITLE: Demonstration Center: Elementary Career Education Program
PRINCIPAL INVESTIGATOR (S): Jacob Broncato
INSTITUTION: Joliet Public Schools District #86
LOCATION: Joliet, Illinois
REQUIRED BUDGET: Local $2,200.00 DVTE $8,430.00 Total $10,630.00

OBJECTIVES OF PROJECT:

This demonstration center provided teachers, supervisors, and administrators with needed direction in planning elementary career education programs.

PROCEDURES OF IMPLEMENTATION:

A number of conferences were held to cover:

1. In-service activities
2. Community classrooms
3. Institute or critique sessions
4. Materials on project JOLIET
5. Suggestions for getting similar programs inaugurated

CONTRIBUTION TO VOCATIONAL & TECHNICAL EDUCATION:

1. Provided local and state people with information on how to best utilize and structure classrooms in their own situation

2. Showed how LEA personnel could decentralize certain occupational experiences to increase student and teacher motivation and learning.

3. Provided a link between the information generated from this project and the teachers and administrators who utilized it.

RDC-A2-078

ABSTRACT FOR CONTRACTUAL AGREEMENT
WITH THE DIVISION OF VOCATIONAL AND TECHNICAL EDUCATION

TITLE: Review and Assessment of the Change and Impact on Occupational Education Resulting from Research and Development Activities Supported by the DVTE of Illinois.

PRINCIPAL INVESTIGATOR (S): Fred Carvell and Kirk Draheim
INSTITUTION: Tadlock Associates Inc.
LOCATION: Los Altos, California 94022

REQUIRED BUDGET: Local - 0 - DVTE $23,599.00 Total $23,599.00

OBJECTIVES OF PROJECT:

The objectives of this project were:

1. Identification of the pattern of change taking place in occupational education as a result of research and developmental activities supported by the DVTE.
2. Determination of the degree to which the DVTE is assisting participating educational institutions to prepare for and implement needed change through the activities it supports.
3. Identification of the relationship between local support, program change, and policy direction resulting from DVTE supported activities.
4. Assessment of the impact of R and D activities at the local, state, and Federal level.
5. Identification of potential areas of occupational education requiring new or additional support from the DVTE.
6. Provide guidelines for future expenditures on research, development, and exemplary activities.
7. Evaluation of the approval process of R and D activities.

PROCEDURES OF IMPLEMENTATION:

1. An ongoing liaison was established with appropriate DVTE personnel to insure a firm study timetable, to obtain background information on DVTE activities since 1966, and to identify data sources.
2. Contacts within the Illinois DVTE and other state agencies were established to determine the availability of appropriate evaluation criteria for assessing past and current activities of the DVTE.
3. A sample (approximately 10 percent) of recipients of DVTE support was selected based on size and type of institutions receiving grants as well as the geographic location of such institutions within the State.
4. On-site visits were made to the selected sample of recipients of DVTE support in order to observe funded programs and conduct personal interviews with staff and students.

CONTRIBUTION TO VOCATIONAL & TECHNICAL EDUCATION:

The State of Illinois has followed the national pattern of change in which a shift toward the demand for nonmanufacturing occupations has occurred. This shift has precipitated an increase demand for skill training in a broad range of occupations beyond those required for manfacturing jobs. As a consequence it was important that the Illinois DVTE support the development of new programs to meet the requirements of a changing educational scene. This evaluation project resulted in helping to identify the strengths and weaknesses of past activities of the DVTE and suggested new avenues for research and development consonant with state priorities and federal guidelines.

RDC-A2-079

ABSTRACT FOR CONTRACTUAL AGREEMENT
WITH THE DIVISION OF VOCATIONAL AND TECHNICAL EDUCATION

TITLE: Development of a Systematic Approach to Follow-up Evaluation
PRINCIPAL INVESTIGATOR (S): Joyce Felstehausen
INSTITUTION: Eastern Illinois University
LOCATION: Charleston, Illinois
REQUIRED BUDGET: Local $12,964.00 DVTE $50,004.00 Total $62,968.00

OBJECTIVES OF PROJECT:

The objectives of this project were

1. To design, develop and test a system to gather, process and interpret follow-up data in formats usable by local vocational administrators with emphasis on follow-up of students after graduating, completing a program, or dropping out to determine (a) relatedness between any training program and any employment situation, and (b) to measure the effectiveness of vocational programs.
2. To conduct an extensive in depth follow-up study to determine the impact of career education programs on post-high school employment experiences, in individual career development, and readiness for employment of students completing occupational programs in those schools scheduled for evaluation in FY 1973 under the DVTE Three Phase System for Statewide Evaluation of Occupational Education Programs.

PROCEDURES OF IMPLEMENTATION:

Provisions were made:

1. To utilize an advisory committee of leaders in the occupational fields represented in secondary level career education and appropriate state staff personnel.
2. To utilize LEA's in the collection of follow-up information. A PERT with detailed specifications for administering local follow up evaluations and necessary supplies and staff assistance was provided LEA personnel.
3. For the development and testing of an automated system of gathering and processing follow-up data. Data collection consisted of mailing questionnaires to identified program completions and employers of respondents. Two reminder mailings followed by telephone interviews of those not responding was utilized.

CONTRIBUTION TO VOCATIONAL & TECHNICAL EDUCATION:

Evaluation of the effectiveness of programs of career education was mandated by the Vocational Education Acts of 1963 and 1968. The need for comparable data was complicated by the unique conditions under which each program of career education was designed. The project developed and tested a system for delivering data to provide comparative benchmarks to show changes and differences in program effectiveness over a period of years and provided a framework for evaluating the degree of congruence between the competences taught and those required by the employment situations.

RDC-A3-081

ABSTRACT FOR CONTRACTUAL AGREEMENT
WITH THE DIVISION OF VOCATIONAL AND TECHNICAL EDUCATION

TITLE: Cost Differential Analysis in Regular Secondary Vocational Programs and Area Vocational Centers in Illinois

PRINCIPAL INVESTIGATOR (S): Dr. Dennis C. Nystrom
INSTITUTION: Southern Illinois University
LOCATION: Carbondale, Illinois

REQUIRED BUDGET: Local $13,943.00 DVTE $57,963.00 Total $71,906.00

OBJECTIVES OF PROJECT:

The objectives of this project were to:

1. Define total general and occupational course costs
2. Define differential costs for occupational offerings
3. Define actual and differential occupational course cost based on actual enrollment and maximum course enrollment
4. Prepare written report analyzing data gathered and making inferences from same regarding future funding policies based on course cost differentials

PROCEDURES OF IMPLEMENTATION:

The project was divided into three major phases. Phase I was concerned with developing the data gathering instruments and establishing the experimental design. Phase II was concerned with data collection and computer program development. Phase III involved data analysis and synthesis as well as preparation of the recommendations regarding funding policies based on cost differential data.

CONTRIBUTION TO VOCATIONAL & TECHNICAL EDUCATION:

The general public as well as many professionals have shown increased concern regarding educational program cost. The standard procedure has been to fund occupational programs on a cost differential basis. If this procedure continues, formalized cost analysis procedures at all levels of occupational education programs must be developed.

This study gathered data concerning general and occupational course cost. Differential costs for occupational offerings were then determined and analyzed to draw inferences regarding future funding policies with respect to course cost differentials.

RDC-A2-083

ABSTRACT FOR CONTRACTUAL AGREEMENT
WITH THE DIVISION OF VOCATIONAL AND TECHNICAL EDUCATION

TITLE: The World of Work as an Organizing Center for the Curriculum of the Elementary School

PRINCIPAL INVESTIGATOR (S): Dr. Walter Wernick

INSTITUTION: Northern Illinois University

LOCATION: DeKalb, Illinois

REQUIRED BUDGET: Local $212,135.00 DVTE $166,040.00 Total $378,175.00

OBJECTIVES OF PROJECT:

The objectives of this program were to:

1. Develop a model program for the elementary school
2. Develop materials for implementation of the model
3. Test parts of the model in a variety of authentic settings
4. Plan with selected school systems to diagnose and utilize resources and talent for instructional activities
5. Portray instructional alternatives in visible behavioral forms
6. Produce materials and consultant talent for use in teacher education and in-service education programs
7. Use ABLE MODEL PROGRAM with leaders in elementary education to focus goals and activities upon the healthy development of the child's self-image

PROCEDURES OF IMPLEMENTATION:

1. Reviewed literature and ongoing school projects
2. Developed consultant talent within each participating school
3. Collected evidences of planning, implementation, and evaluation of student performance by teachers and others cooperating with school staffs
4. Produced and assembled dissemination materials
5. Operated a clearinghouse for talent services and materials
6. Established several research and demonstration centers
7. Applied appropriate evaluations to test the effectiveness of the ABLE MODEL PROGRAM, especially "instructional support system".

CONTRIBUTION TO VOCATIONAL & TECHNICAL EDUCATION:

1. Furnished a model for the education of all students in the elementary school
2. Furnished a model of curriculum development for change-agents to initiate, maintain and service activities within the realm of occupational information for elementary school children
3. Provided guidelines for forthcoming state evaluations of occupational education programs, K-8

RDC-A2-084

ABSTRACT FOR CONTRACTUAL AGREEMENT
WITH THE DIVISION OF VOCATIONAL AND TECHNICAL EDUCATION

TITLE: Career Development for Children Project
PRINCIPAL INVESTIGATOR (S): Larry J. Bailey
INSTITUTION: Southern Illinois University
LOCATION: Carbondale, Illinois
REQUIRED BUDGET: Local $28,165.00 DVTE $116,193.00 Total $144,358.00

OBJECTIVES OF PROJECT:

The major curriculum goal of this project was to assist the student, at approximately the grade eight level, to formulate generalized occupational preference which allowed him to plan a relevant high school curriculum related to a future career goal. The curriculum carefully articulated developmental concepts related to "self" and the "World of Work", beginning at grade one, to achieve this overall objective.

PROCEDURES OF IMPLEMENTATION:

1. Continued implementation of a career-oriented curriculum through development and testing of curriculum materials.
2. Disseminated descriptive materials to parents, local school personnel, teacher, counselor educators, professional organizations, and officials in State and Federal governmental agencies.
3. Planned for a Nationwide implementation of career education programs at the elementary and junior high school level.

CONTRIBUTION TO VOCATIONAL & TECHNICAL EDUCATION:
The Career Development for Children Project was among the first in the Nation which sought to develop new curriculum materials based upon a comprehensive curriculum model supported by the body of literature and research related to career development theory. Experiences of previous successful curriculum projects clearly demonstrated that high quality materials were a necessary prerequisite to successful implementation.

RDC-A2-085

ABSTRACT FOR CONTRACTUAL AGREEMENT
WITH THE DIVISION OF VOCATIONAL AND TECHNICAL EDUCATION

TITLE: Career Education 9-12

PRINCIPAL INVESTIGATOR(S): John Hlavach
INSTITUTION: Peoria Public Schools
LOCATION: Peoria, Illinois

REQUIRED BUDGET: Local $31,509.00 DVTE $85.200.00 Local $116,709.00

OBJECTIVES OF PROJECT:

The general objectives of the project were to:

1. Establish a model placement center at the secondary level
2. Establish a community industrial council
3. Study a new approach to Coop Experiences
4. Work in support, revision, and implementation of other vocational areas indicated by student needs.

PROCEDURES OF IMPLEMENTATION:

Activities were designed to garner community support for providing career education programs for high school students. An Industry-Education Coordinator was selected to serve as a liason person between industry and education. This coordinator was assisted and advised by the General Advisory Board for Vocational Education. The prime function was to determine the availability of community resources. These resources were used by the schools for supplementing existing programs and for expanding vocational opportunities. A model placement center was established. Placement specialists were hired to supplement present guidance services of career information and employment potentials. Employers were requested to advise and participate in a new type of cooperative work training program. This new program provided students with work experiences similar to an internship. Program revision and implementation was consistent with federal and state guidelines, student interest, and employment potentials.

CONTRIBUTION TO VOCATIONAL & TECHNICAL EDUCATION:

A career education program that utilized community resources as its focal point enhanced the scope and breadth of vocational programs in the Peoria Public Schools. The experience gained provided valuable guidelines for expanding vocational training through out the state.

RDC-A2-087

ABSTRACT FOR CONTRACTUAL AGREEMENT
WITH THE DIVISION OF VOCATIONAL AND TECHNICAL EDUCATION

TITLE: Third Party Evaluation of Career Education Projects
PRINCIPAL INVESTIGATOR (S): Fred A. Clark
INSTITUTION: Success Research Consultants, Inc.
LOCATION: Olympia Fields, Illinois
REQUIRED BUDGET: Local -0- DVTE $15,357.00 Total $15,357.00

OBJECTIVES OF PROJECT:
The objectives of this project were:

1. To identify the overall impact of three career education projects sponsored by the Division of Vocational and Technical Education in terms of such features as educational effects, administration, and student and community impact.
2. To indicate how the components of each separate project relate to each other, and the consequences of changing one component of a particular project in terms of its effect upon the project as a whole.
3. To measure the significant outcome of each career education project with an indication of the growth and development of each project throughout the contract period.

PROCEDURES OF IMPLEMENTATION:

1. This study collected data for formative and summative evaluations at various time periods within the contract period. Techniques utilized included:
   a. Questionnaire and test data on a pre and post basis (in and out of school)
   b. Empirical observation of the schools involved in field testing of project materials
   c. Collection of data in such areas as student attitudes, community conceptions, teacher recommendations, etc.
2. All objective and subjective data was analyzed to determine the significant, transferable components of the projects evaluated.

CONTRIBUTION TO VOCATIONAL & TECHNICAL EDUCATION:
The overall impact of the three projects in terms of such features as educational effects, administration, and student/community impact was determined. By analyzing the various components of each project, it was possible to determine how they related to each other and the consequences of changing one component of a particular project in terms of its effect upon the project as a whole.

APPENDIX B

PRIORITIES SURVEY FOR RESEARCH, DEVELOPMENTAL, AND EXEMPLARY ACTIVITIES FOR FISCAL YEAR 1973

PRIORITIES SURVEY FOR RESEARCH, DEVELOPMENTAL, AND EXEMPLARY ACTIVITIES . . . FY 1973

Please complete the following:

1. Name _____ (Last) (First)

2. School: _____ (Name) (District No.) (Position)

3. Grades Included in this School: _____

4. Below you will find five groups of priorities (letters A-E). Each group is preceded by a short goal statement. Please rate the priorities in each group as to how you feel they meet the needs of the goal statement assuming that well-planned tasks were defined before beginning the priority. Spaces have been provided after each group for you to write in priorities as you desire.

   Using the numbers 5, 4, 3, 2, 1, circle the number to the right of each priority statement that you feel best fits that priority. The number system is as follows:

   5 – Strongly agree that this priority is necessary to accomplish this goal (of primary concern).

   4 – Agree that this priority is necessary to accomplish this goal (not critical but of concern).

   3 – Uncertain as to the value of this priority.

   2 – Disagree that this priority is necessary to accomplish this goal.

   1 – Strongly disagree that this priority is necessary to accomplish this goal.

   Each priority should be rated on its own merit. Do not consider this a ranking of priorities.

A. Goal Statement: Initiate research activities designed to expedite total planning and decision-making at the state and local level.

PRIORITY

	Strongly Agree	Agree	Uncertain	Disagree	Strongly Disagree
Development of an automated vocational data information system.	5	4	3	2	1
Follow-up of vocational education graduates/ dropouts/completions	5	4	3	2	1
Manpower needs studies to analyze vocational education demands in specific geographic areas.	5	4	3	2	1
Supporting studies which concern cost-differential at all levels of education.	5	4	3	2	1
Others (please specify).	5	4	3	2	1

B. Goal Statement: Provide alternative methods for organizing programs, staff, school, etc., to meet the needs of specific target groups within the regular school environment.

PRIORITY

	Strongly Agree	Agree	Uncertain	Disagree	Strongly Disagree
Research Programs designed to survey needs of specific target groups.	5	4	3	2	1
Support programs initiating new, and upgrading traditional job areas meaningful to women, older workers, and the unemployed, at the skill, technical, and semi-professional level.	5	4	3	2	1
Development of broad programs of occupational information and orientation for adults.	5	4	3	2	1
Programs specifically designed to prepare disadvantaged students for the "World of Work."	5	4	3	2	1
Others (please specify).	5	4	3	2	1

C. Goal Statement: Identify and support research, developmental, and exemplary career development programs which emphasizes an articulated and coordinated K-14 system.

PRIORITY

	Strongly Agree	Agree	Uncertain	Disagree	Strongly Disagree
Development of a comprehensive package for the LEA on methods and procedures for implementing career education at all educational levels.	5	4	3	2	1
To support curriculum and in-service packages to aid in the implementation of career education programs in the local school.	5	4	3	2	1
Development of occupational information packages at the junior high school level utilizing different individualized techniques (video tape, slides, hard copy, etc.)	5	4	3	2	1
Implementation of a local level "Career education resource Center" within a local school setting.	5	4	3	2	1
Others (please specify).	5	4	3	2	1

D. Goal Statement: Support research, developmental, and exemplary activities which spotlight innovative delivery systems and instructional techniques.

PRIORITY

	Strongly Agree	Agree	Uncertain	Disagree	Strongly Disagree
Examine the feasibility of establishing joint agreements as a method of providing comprehensive vocational programs in sparcely populated areas.	5	4	3	2	1
Support the establishment of a model placement system at the high school level.	5	4	3	2	1
Promote innovative individualized instructional techniques emphasizing selected occupations.	5	4	3	2	1
Supporting studies to assess and define the responsibility of vocational education for developing environmental technology curriculums.	5	4	3	2	1
Study the feasibility of utilizing performance contracting technique in school utilizing industrial personnel.	5	4	3	2	1
An assessment of present day delivery systems in vocational-technical education	5	4	3	2	1
Others (please specify).	5	4	3	2	1

E. Goal Statement: Plan and initiate a system(s) which insure the implementation of research and developmental results.

PRIORITY

	Strongly Agree	Agree	Uncertain	Disagree	Strongly Disagree
Utilize pre-developed program planning and decision-making activities to strengthen articulation between elementary, secondary and post-secondary programs.	5	4	3	2	1
Development of a statewide system for the dissemination of national research and development activities (i.e. ERIC, DATRIX).	5	4	3	2	1
Establishment of statewide demonstration centers used to spotlighting viable programs in vo-tech education.	5	4	3	2	1
Others (please specify).	5	4	3	2	1

5. What kind of services can the Research and Development Unit provide to the local education agencies to better acquaint them with research, developmental, and exemplary activities on-going in Illinois.

6. If "Requests for Proposal" are developed to meet specific priorities, would your agency be interested in receiving notification of these request. If so, please indicate a name and mailing address.